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The Cow as Farm Renovator.

One of the best-known Eastern dairymen is Hon. Randall W. Ellis, who has worked out a system of "high dairying" on his profitable farm at Embden, Me. His address at the meeting of the Maine State Dairymen's Association, Dec. 5, was one of the most practical and stimulating of them all, and is given herewith nearly as delivered:
Altogether too many of our farms have been sadly neglected in the past, occupied by a sleepy, slide-away class, who enjoy beavailing their own condition much better than trying to improve it. Their fields are running out, and weeds and bushes are taking possession. They will boast of what their farm has done in the past, and give as a reason for not keeping it up that help is so scarce and high that they cannot afford to hire, and their own boys have all left them. Who wonders that the boys have run away from such farming? It was the wisest thing they could do. Bright boys are not caught with chaff.

A good lady once said, "Seeing is believing, but feeling is the naked truth." It is what a child feels and realizes that makes a lasting impression. Let a boy get up behind a good, trappy pair of horses and ride to spread manure, to plow it in, to pulverize the ground, and to harvest and bind the corn,—let him ride to sow and mow, to rake and to gather in, and that boy is not going to leave the farm. He says that there is pleasure as well as profit in farming, that it gives health and vigor to both body and mind, and more real happiness and independence than any other calling known to man. But, it may be said, the small farmers cannot all have these privileges. I affirm they are within the reach of all who will to have them, for where there is a determined will there is always a way.

In the first place, all of the more costly implements can be used by half a dozen farmers just as well as by one. Again there need be but few "small farmers." There are but very few farmers in the State which have not twenty-five acres or more of tillage land, and on all such twenty-five cows can easily be kept. Surely it is not a very small farmer who has a dairy of twenty-five cows.

The dairy cow is always at home. For 365 nights and at least two hundred days she is housed where all her droppings can be saved. She returns to the soil a larger per cent. of what she eats than any other living animal. In fact, ninety-nine per cent. of all she eats, except what nature requires to sustain life and keep up the waste of the system, is returned to the soil; seventy-five per cent. in her voidings, liquid and solid, and twenty-four per cent. in the waste product of her milk. Less than one per cent. goes off in butter fat.

In reckoning the profits of the dairy, these byproducts do not get the credit due them; in fact, they are scarcely ever reckoned at all; but when you take into consideration the depleted condition of nearly all our farms, and the urgent need there is for recuperation, they should be ranked first in importance, for without the elements of fertility in the soil our receipts in dollars and cents would soon be gone.

Three gallons of skimmed milk or butter-milk will make one pound of dressed pork. The average cow will produce three hundred gallons of milk in a year, hence she will make one hundred pounds of pork. The cow herself, if properly treated, with what results from the milk fed the pigs, will make two cords of first-class dressing. Six cords of such dressing is sufficient to fertilize an acre for sweet corn if the land is too much run out. An acre of corn will yield on an average \$40 worth of ears and one tons of silage. A cow will eat about sixty pounds of silage per day, hence the one tons will feed 15 cows two hundred days. The same amount of land sown to oats and peas will yield 25 tons, of which a cow will eat fourteen pounds per day, hence it will feed 15 cows two hundred days and have three hundred pounds to spare. The same acre of land will produce 1 1/2 tons of hay, of which the cow will eat sixteen pounds per day, thus feeding one cow two hundred days and leaving three hundred pounds to spare. The money, \$40, received for sweet-corn at the factory will buy sufficient provender for the four cows, fed as they have been on coarse fodder. Now you see that three cows have produced enough on three acres to keep four cows two hundred days, the average length of our winters, with six hundred pounds to spare, a gain of thirty-three per cent.

These are the results of actual tests of the crops raised on our farm in 1901, the land being all measured and the amounts ascertained by weighing certain plots, which were as near an average as possible, and reckoning the whole field by them you will see that the averages of the crops were not large, no larger than the average farmer raises.

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One thing which we noticed in particular was the great difference in the amount of shrinkage of different crops in curing. For instance, while oats and peas lose only two-fifths, clover loses more than three-fifths. A man not used to weighing will over estimate a clover crop, while he will under estimate a pea crop, and the latter contains far more nutritive qualities than the former. A cow will eat on the average about sixteen pounds of clover hay per day, while she will not eat more than fourteen pounds of oats and peas, and will give more milk on the latter. We are able to get more cow feed from an acre of oats and peas than from an acre of sweet corn with the ears picked off for the factory and one-half more than we can from an acre of clover. For this reason it seems absurd to admit the oat and pea crop and seed the corn land directly to clover, as some are recommending.

In my opinion, it is much more profitable to raise sweet corn, pick off the ears and exchange them for protein feeds, than to plant a larger-growing corn and put it all in the silo. If a large growing variety of yellow corn is planted, about forty or fifty bushels of ears per acre would be obtained to pick off and dry, about three tons extra of silage, to offset the \$40 from the factory.

These are no fancy pictures, they are actual facts backed up by the experience of a lifetime. I do not tell these things to boast, for some have done better and many just as well.

A. W. Cheever of Massachusetts told me that he had succeeded in feeding twenty-six head of stock (not all cows) a full year from twenty-five acres of land; so it seems we are not "in it" with some of these fellows at all. What I have done and said has been to demonstrate what can easily be done by any one who desires, almost anywhere in New England or the Middle States. But alas, there are many who have no desire to do it, but are content to plod along in the old beaten path which has been trodden for generations before them entirely oblivious to what is going on in the world around them, or ever stopping to ask themselves if there is a better way.

The Massachusetts State Board.

The annual gossip concerning a possible change in the makeup of the Massachusetts State Board of Agriculture is louder than usual this year, for the reason that the foes of the present official system have fixed upon the cattle epidemic as a ground for attacking the efficiency of the board. But since it has been shown that the board has no real power over the cattle bureau, and therefore no responsibility, the critics have shifted their stand to the ground of former years. The board is declared too numerous, too unrepresentative and too much bound up in the agricultural societies. These charges are not new, but have in the past become very familiar by annual repetition. Legislatures of previous years have not considered them sufficient cause for making the changes suggested, and it seems doubtful if the present body of law-makers, which convenes next month, will do anything about it, although the agitators are this year more than usually numerous and influential.

Friends of the board, as it now is, certainly make out a fairly strong case. There are, they say, only forty-three on the board, including the governor and five other ex-officio members. The governor appoints three members, leaving thirty-four from agricultural societies; but of course many of these members, as in the case of other organizations, are not especially hard workers, and the heavy duties fall upon the secretary, his two clerks and the executive committee, which comprises nine members who are the chairmen of the nine sub-committees. The large number of members, of course, permits these chairmen to be carefully selected for the adaptation to the various duties of the committees. The rest of the members are not idle, however, as besides committee work, they render important service upon the weather reports and other routine work upon the board, in addition to supporting the institutes and cattle fair work. As they receive no salary, their number is quite reasonably claimed to be no real objection, but rather a help, to the accomplishment of miscellaneous tasks.

The nine committees mentioned meet only from one to four times a year. They include a committee on agricultural societies, domestic animals and sanitation, on gypsy

moth insects and birds, on dairy bureau and agricultural products, on agricultural college and education, on experiments and station work, on factory, roads and roadside improvements, and on institutes and public meetings. The executive committee meets whenever it is called, and hence is the real working force apart from the routine matters just enumerated. This committee, comprising, as it does, the heads of all the sub-committees, would seem, in theory at least, to be a very efficient body.

In regard to "progressiveness," the board is claimed with good show of reason to be well in line with those of neighboring States. That might not be to claim anything extreme in some cases, since the agricultural departments of certain States are notoriously so allied with political machines that their usefulness is much impaired. But any such conditions do not seem to prevail in Massachusetts.

As an example of progressiveness is cited the recent appointment of a special committee to look after State legislation so far as it concerns the interests of the farmers; certainly an excellent move. As to the methods of representation, it is declared that to take the election of members away from the agricultural societies would perhaps afford an entrance for politics and endanger the present trustworthiness and representative character of the membership.

Most people come in contact with the rules of the board chiefly as readers of the annual reports and monthly crop bulletins, both of which are in great demand, and are likely to be continued even if the organization of the board were changed. The abandoned farm catalogues have also been popular, and about seventy-five per cent. of property described in the last catalogue has been disposed of as a result.

The proposed voluntary retirement of secretary J. W. Stockwell makes certain a change in the executive head of the board. Secretary Stockwell has done creditable work and his withdrawal brings out general expression of esteem and appreciation. Many possible candidates for the position have been spoken of, some of them only half seriously, since the secretary will be chosen by the vote of the board and selected from among its own membership. If the usual routine

is followed, as seems probable, it would, of course, shut out the several candidates who are not members of the board. If Prof. A. A. Brigham, a Massachusetts man, formerly director of the Rhode Island Experiment Station, were strictly eligible, he would doubtless make a very efficient secretary, being a man of balanced ability and energy. The mention of W. H. Bowser of Boston as a candidate is regarded by most as something of a joke, since that gentleman has been a leading opponent of the board which is to make the proposed election. More probable choice would be J. L. Ellis, of Worcester, an influential member, and one whose appointment would no doubt satisfy many of the members. Secretary W. C. Jewett, master of the State Grange, has also been mentioned, and this candidate's experience as a Grange official and organizer would seem to have qualified him for the post. W. B. Barton of Dalton is a possible aspirant, whose friends could bring strong influence to bear should it appear that he leaves the position, and his qualifications, therefore, have not been disputed.

Those of the board who believe that the eastern part of the State should be represented this term, will naturally favor Mr. Ellsworth, Mr. Jewett, Mr. Sargeant of Amesbury, or some other resident of that section. But the opinion seems to prevail, that, regardless of locality, the man shall be chosen who will best suit the farmers, and who is willing and able to put some hard work and new ideas into the position.

So far as the move for reorganization concerns the secretaryship, the board will do wisely to concede something to its opponents, at least to the extent of choosing a secretary who will fairly represent the active progressive section of the farming community, as well as the more conservative elements.

Modern Calf Feeding.

Here is one convenience we have found very simple and satisfactory in this line. We take two pieces of half-inch steam pipe, each fifteen inches long, and thread with a die both ends of one piece and one end of the other, then join the two with a threaded elbow and a coupling turned on to the other threaded end.

Then with a close-fitting rubber calf nipple, that can be bought most anywhere, pulled on over the coupling till it closes in behind it, completes the feeding tube. All that is needed now is to drive a staple of right size for the pipe to slide easily through, so that when the pail in which the milk is placed is where it is wanted, the end of the pipe extending downward from the end of the staple will just reach the bottom of the pail. Then the nipple end will swing freely from one side to the other, while its relation to the bottom of the pail will not change.

You have now one of the best suction feeders to be found; nothing complicated, but little trouble to keep clean, and practically indestructible. With a good-sized hole in the nipple, you can feed a grub in addition to milk if desired, and we have seen good calves raised on the grub alone.

I will give here the receipt for making a feed that will be richer by analysis than new milk, and fed carefully will make big calves without a gallon of milk after the first three days. Take twenty pounds of wheat flour middlings, ten pounds corn flour, one pound flaxseed meal, one pound fine salt, 14 pounds fine bone flour, 110 pounds (fifty-five quarts) water warm enough to make it 100° when ready to feed. This can be fed through the calf feeder we have described by thoroughly stirring and being sure the hole in the nipple is of reasonable size. As this is richer than new milk, care should be exercised in feeding not to scour the calf.

It can be successfully used at any age up to six or nine months, and then if desired fed dry. It is a genuine pusher. Our directions, when the calf is in normal average condition, are: First two weeks, morning and night, two quarts each feed, noon one quart; third and fourth weeks, three quarts morning and night, noon, handful of hay and small handful of corn meal or oats dry; fifth and sixth weeks, 3 1/2 quarts morning and night. Hay and meal or oats at noon, or runs in shady grass lot; seventh and eighth weeks, four quarts morning and night, with what corn meal and oats he will eat at noon with hay or grass.

After the calf is two months old, increase only in coarse feeds and dry meal and oats. It will pay to keep up the milk or grub ration until she is six months old at least, and I feel certain these rations, well mixed with brains, will produce an animal you will not be ashamed to have your neighbors see.

A. J. HAMM.

Leighton's Corners, N. H.

Frauds in Cottonseed Meal.

Within the past three weeks several samples of low-grade cottonseed meal have been sent to the Maine Agricultural Experiment Station for analysis. These came from widely separated parts of the State. These goods were differently branded, and two lots carried no guaranteed analysis. The retailers were notified of the quality of the goods and their sale stopped. This meal carried from twenty-four to thirty-four per cent. protein, and is the first low-grade goods that has come to my attention for nearly two years. As directed by law I have reported the violations to the commissioner of agriculture, who is following the matter up.

Dealers or consumers who have dark-colored cottonseed meal or meal containing black specks should, for their protection, send a sample to the station for analysis. The sample is best sent by mail in a tin box—an old spice box answers nicely. A description of the goods, including a copy of the guaranteed analysis, should be sent with the sample. The analysis will be promptly made and reported free of charge.
CHARLES D. WOODS.
Orono, Me., Dec. 10.

Profits of Cattle Feeding.

As to the profits in cattle feeding, I think that while they are not always large, they are reasonably certain. Five years ago I went into partnership with a renter; I furnished the pasture and yards, and he did the work. The money for the purchase of corn and cattle was furnished equally by each. The first year on one load and the hogs we made \$338.77. The second year the profit was \$283.75. The third year \$544.98. The fourth year on two loads the estimated profit was \$800. The fifth year is not yet closed. This, of course, includes the hogs that went with the cattle, and most of the years we had many more hogs than were really needed for the cattle. Only give these figures that you may see what can be accomplished for the farmer as well as the farm.

From the figures here given, which are taken from life, for the years given, we learn that one year with another it will take fourteen bushels of corn to feed a steer and the hogs that are needed with him a month; for an average of eight months; that with a liberal supply of hogs about two-fifths of the corn fed can be charged to the hogs; that from six to seven pounds gain for each bushel of corn fed is about an average when you have good pasture and good care. That sixty pounds per month or two pounds per day is a good average net gain for an eight-month feed. This would average at least seventy pounds home weight on cattle here given. Many of the steers here reported were light cattle when bought. I am fully convinced that with a heavier class of cattle I can materially increase the gain per month as well as the profit, and at the same time reduce the average feed from eight to five or six months.

To illustrate what heavy cattle will do, I put in forty head Sept. 13 that averaged 1084 pounds Chicago weights. Four months later I weighed them again. They had made an average gain of 414 pounds gross, or a net gain of over ninety-two pounds per month after shrinking them three per cent.
Hox. W. W. COLE.

Dairy Markets Active.

During the past week the situation has strengthened considerably. The supply on hand has been largely cleared out, and storage stock has been drawn on to a large extent. Prices have advanced all along the line one-half to 1 cent a pound. The cause of improvement seems to be the smaller receipts from the country, owing to the unfavorable weather and bad conditions of the roads. Quite a proportion of the receipts are of inferior quality, which fact tends to prove prices on the best grades; accordingly, the greatest gain is noticed on higher grades of creamery, while common lots, farmers' dairy butter and renovated, show little or no advance. Most of the large lots sold have been storage butter, which comes out in good condition and gives general satisfaction. Were it not for these supplies of cold stores, it is likely that the rise would have been more decided. On the other hand, buying of butter for storage helps to keep up the prices in summer. For most of the receipts, 26 cents to 27 cents has been the rate, but a number of sales have been reported at 27 cents to 28 cents, and some fine lots in a jobbing way at 30 cents.

For the week ending Dec. 16, the receipts at Boston were 8395 tubs and 17,555 boxes, increasing to about 30,000 upon shipment of last week; but there is still much less than usual for this time of year. There were no exports. The stock in storage is 181,172 tubs, or 49,550 tubs more than at this time last year. Over 16,000 tubs were taken out during the week.

For New York the same reduction in shipment is reported, but the demand is not over brisk. Fancy creamery is held firm, with slight advance in some lines. Buyers are paying 30 cents for small lots of the best grades of creamery, but large sales rule one-half cent lower a pound. Storage creamery sells for 26 cents for fancy quality, and some jobbers quote one-half to one cent higher for this grade of goods. Large buyers are inclined to wait, owing to the fact that the present advance is only temporary. The receipts for Dec. 17 were 6120 packages.

Cheese quotations are firm, but trade is rather light. Quotations in Boston show no indication of the slight rise noticed in other centers.

At New York, cheese receipts Dec. 17 were 2896 boxes, including 1004 boxes for export. The market has been rather quiet on account of the stormy weather, but prices are firm, with slight advances for fancy grades. Lately colored cheese, small sizes, is in brisk demand, also some of the cheap grades which are wanted for export, both full cream and skims.

Good Market in Provisions.

Beef has been in fair supply and prices a trifle higher. There is a good call for large, heavy beefs for the holiday trade. Beef arrivals for the week were larger for export, being 143 cars for Boston and 86 cars for export, a total of 229 cars; preceding week, 143 cars for Boston and 73 cars for export, a total of 216 cars; same week a year ago, 153 cars for Boston and 118 cars for export, a total of 271 cars.

The pork market has been very active. The total kill for the week was 44,500; preceding week, 38,000; same week a year ago, 36,200. For export the demand has been very large again, the total value by Boston packers having been about \$305,000; preceding week, \$300,000; same week last year, \$240,000.

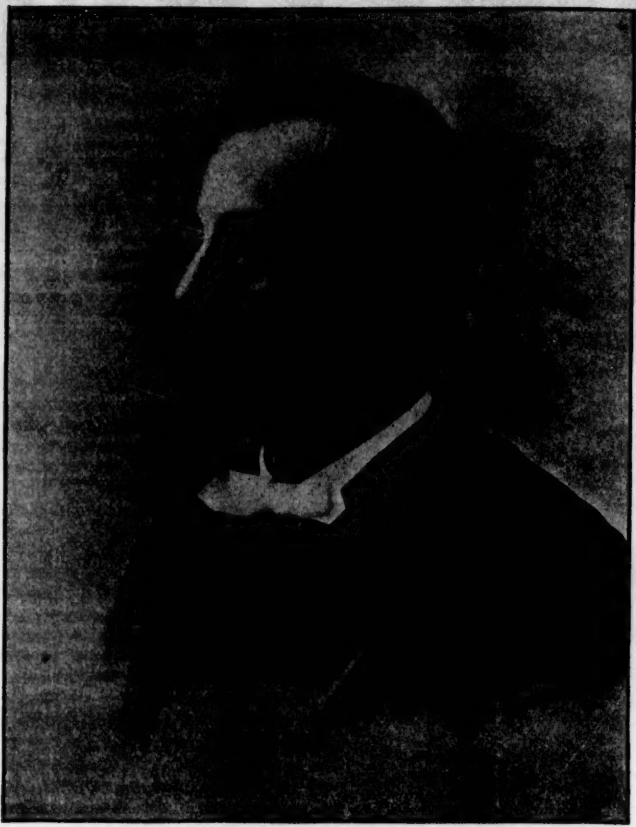
There is considerable increase in the marketing of hogs, although a continued shortage in the marketing with last year, says the Cincinnati Price Current. Total Western packing 305,000, compared with 435,000 the preceding week, and 500,000 two weeks ago. For corresponding time last year the number was 775,000 and two years ago 550,000. From Nov. 1 the total is 2,895,000, against 3,700,000 a year ago—a decrease of 805,000. The price in Boston market has not changed greatly, although the abundant supply has caused a downward tendency in some lines of pork provisions. So mutton and lamb are in brisk demand with firm prices, which would advance if the supply were less ample. There is but little change in the real situation. Good fat calves have been comparatively scarce all the season and prices satisfactory. Venison is not over plenty. Whole deer bring 15 to 20 cents per pound. Moose is scarce at 15 to 20 cents. Bear in fair supply at 15 to 20 cents. Black ducks set at \$1.50 to \$1.75 per pair, redhead ducks \$2.50, wildgeese \$1.25 to \$1.50, teal \$1.10. Philadelphia squab are firm at \$3.50 to \$3.75 per dozen, with natives at \$3 to \$3.50, quail \$4 per dozen, plover \$6 to \$7 per dozen.

Venison in Canada is reported very plenty and cheap, the price having declined in the country districts from 9 cents down to 3 or 4 cents a pound. At such prices it is low-cost food, and lumber bosses are feeding it to their men instead of beef. So much venison has been fed, in fact, that more of the lumbermen are said to have petitioned for a change to salt pork and beef. The large increase in the number of red deer in the country during the present season is generally attributed to the increasing number and boldness of the wolves infesting the woods of the far North, which have driven the deer to seek refuge nearer to the haunts of man.

From the village of Lake Megantic, alone, in Quebec, near the Maine frontier, more than 1500 carcasses of deer were shipped this season. The Quebec law allows only two deer per hunter each season, but no doubt many of the market hunters have greatly exceeded their right. Many are using traps which is also illegal.

The recent legislation in Germany, by which an increase is made in tariff, especially on breadstuffs and provisions, lends especial interest to some tables prepared by the Treasury bureau of statistics, showing the commerce of the United States with Germany, the value of exports of breadstuffs and provisions to that country in each year during the past decade, and the principal articles entering into the commerce between the two countries.

In breadstuffs the chief exports from the United States to Germany are, of course, corn, wheat and wheat flour. The value of the corn exports to Germany during the last decade have ranged from \$2,704,000 in 1893 to \$17,395,229 in 1901, the 1902 exports, of course, being small because of the shortage in last year's corn production. Wheat exports ranged from \$2,569,000 in 1893 to \$7,871,000 in 1901, and \$14,944,000 in 1902. Of wheat flour the figures in 1893 were \$1,011,000, and in 1902 \$2,773,000. Of provisions the most important items in our exports to Germany are lard, oleomargarine, bacon and sausage casings. The value of lard exports from the United States to Germany was in 1893 \$6,429,000, and in 1902 \$16,237,000; of oleomargarine in 1893 \$2,371,000, and in 1902 \$2,573,000; of bacon in 1893 \$678,273, and in 1902 \$1,675,000, and of sausage casings in 1893 \$337,327, and in 1901 \$1,143,000. It is evident that the grain and provision trade with Germany is increasing very fast.



REV. PHILO W. SPRAGUE.

that in provisions having more than doubled in ten years, and that in breadstuffs having multiplied nearly fourfold. The German market is becoming an extremely valuable outlet for our surplus products, and the recent legislation which impedes this trade needs prompt attention from the lawmakers at Washington.

Causes of Soft Bacon.

The Canadian experimental farm authorities have issued a report by Mr. Frank T. Shutt, chemist at the farm, upon the character and causes of soft pork. Softness in pork is a serious defect, and so the question is of great importance to the Canadian bacon industry. Mr. Shutt summarizes the results of his experiments as follows:

Of all the grain rations employed that consisting of equal parts of oats, peas and barley gave the firmest pork. It may be further added that the fat was deposited evenly, and not too thickly, and that this ration gave a very thrifty growth. No difference could be observed in the firmness of the pork from the preceding ration, whether fed soaked or dry.

When half the grain ration consists of corn meal, the resulting pork shows an increased percentage of olein; in other words, a tendency to softness. In this ration (half corn meal, half oats, peas and barley in equal parts) the feeding of it boiled gave a slightly higher oil content, but this is only apparent when the average from four pens is taken into consideration.

Considering the effect of feeding the ration of oats, peas and barley during the first period (to a live weight of one hundred pounds), and corn meal during the finishing period, compared with the reverse of this plan—that is, corn first, followed with oats, peas and barley—we may conclude that the former gives a firmer pork.

In both methods mentioned in the preceding paragraph no marked difference was to be observed from the ration fed dry or previously soaked, though, taking an average of the two groups on each ration, the "dry" feed gave a somewhat higher oil content.

As when corn meal formed half the first period ration, and the whole of the second period ration, the resulting pork was somewhat softer than from that of any of the rations already discussed, we conclude that the longer the period during which the corn is fed as a large proportion of the ration, the softer will be the pork.

Beans produce a soft and inferior pork. The growth of the pigs so fed was poor and miserable, and the deposition of the fat meagre. Corn meal fed exclusively as the grain ration, either dry or previously soaked, results in an extremely soft fat, the percentage of olein being considerably higher than from any other ration tested. The pork was of an inferior quality. Here, also, we noted the miserable growth of the animals, the ration in no sense being an economical one.

How Birds are Killed.

Two years study of the enemies of birds, taken together with twenty five years previous experience, places their principal enemies about in the following order, according to their importance: Cats, English sparrows, gunners, boys, crows, jays, hawks, squirrels, black snakes. Foxes, skunks, weasels and other small mammals are also to be reckoned with; also owls, shrikes and a few others. These, however, are not of great importance as enemies to the smaller, useful birds. Most farmers keep too many cats, and in many localities vagrant cats are numerous. In good hunting ground it is a poor cat that will not destroy fifty birds each year, mostly young in the nests or inexperienced fledglings. A great many older birds also fall victims to the cat.

Christmas Greens.

Evergreens, wreaths and Christmas greens have been on sale during the week, and the demand is reported to have begun earlier than usual and to be very satisfactory. Gulliver & Allen report that Christmas trees, balsams largely for church and society use, sell from \$1 to \$2. Smaller ones are sold in bunches of eight, 75 cents to \$1 per bunch. Holly \$3.50 per case. Evergreen wreaths \$2.50 to \$3 per dozen. Holly wreaths \$1.50 per dozen. Southern mistletoe \$3 per case. Imported mistletoe \$10 to \$12 per case. Moss evergreen wreaths \$1.25 per dozen. These are the prices paid to farmers and shippers. The goods go mostly to churches, private families and florists.

The Milk Situation.

The prevalence of the cattle disease has no doubt lessened the demand for milk in some of the cities, although the milk from infected herds is not allowed to be shipped. Consumers could easily make the milk harmless, even if from such herds, by heating it to a temperature of 180°. Thus far stoppage of milk from the few herds infected has not materially lessened the supply of milk at Boston or New York.

The annual meeting of the New England Milk Producers Association will be held in the American House, Boston, Jan. 16, at ten thirty in the forenoon. The proposition, according to secretary W. A. Hunter of the association, is to divide the territory into three zones, or fix the limit once in thirty miles,

that is, one cent for thirty miles, two cents for sixty miles and three cents for ninety miles, etc., as has been the custom. There are other questions to come up of vital importance to the union. Each section shall be entitled to send its president and secretary as delegates to this meeting, and one additional delegate for each ten members in excess of twenty. Any member of the New England Milk Producers Union, not a delegate to the meetings of the central union, may attend the same, but shall have no voice except by a two-thirds vote of the members present, and no one can have any voice in the meeting who has not paid his dues for 1903.

Literature.

In this book Sidney C. Grier, author of "The Prince of Captivity," has given his readers an exciting tale of political intrigue and war on the Kemistan frontier. The story opens with the coming of the new commissioner, to rule in the place of General Keeling who has just died. His daughter, married to Dick North, is a doctor of medicine, and both she and her husband are much beloved by the natives. Mrs. North's father was the idol of his border, and even now it is his captivity is to be trouble on the border he rides at night on his rounds about the defenses guarding Kemistan. Dick's sister and Mr. Burgrave arrive the same time, and already Mabel North has attracted the attention of the commissioner (Burgrave). Mabel is an irresistible girl who has been accustomed to have her own way all her life, and not knowing the ways of the border, she is the cause of much trouble.

Mr. Burgrave has formed a certain policy which he proceeds to put into effect as soon as he arrives, consulting no one, and he is wholly without any practical knowledge of the natives or their ways. Dick North is immediately under him, and is obliged to carry out his orders, however insane they may be, or what a dangerous position the enforcement of them places Dick, who is perfectly familiar with the situation and is trusted by the natives. Thus from the first the relations between the two men are strained. Burgrave considers Mrs. North quite bold because of her work among the natives, doctoring and assisting them when they need aid. He is always cognizant of his greatness and sets about putting his policy into effect, thus plunging Kemistan into a helpless seizure by his moves. Even until the last he will not admit his policy is wrong. The character of Mrs. North is a fine portrait of a modern, educated woman, who is capable of being a level-headed person in times of danger, an able counselor to her husband, besides a tender-hearted wife and a loving mother. One of the strongest scenes in the book is the fresh courage given the men by the news of the birth of a son to Mrs. North, even though their outlook is well-nigh hopeless. The boy is the grandson of General Keeling, and is one of the regiment at the time of his birth. Burgrave alone fails to understand the joy with which the birth is received by the members of the army at this period when every one expects death finally. A general tells him that the men will fight like demons rather than the son of Mrs. North shall fall into the enemy's hands. The rights asserted by Ismail Baksh, the oil servant of the family, often conflicts with the attentions of Mabel, the baby's aunt. Ismail considers the boy in danger while the commissioner lives, for to his mind the disturber lives in Burgrave, and that he would take any means to wipe out this beloved family out of existence. Mabel North comes out of the dangers much purified and less selfish, although the lesson is hard to learn. Her part in the cause of the peril is not small, as she plunges her by the grace of General Keeling, her by others. The field presents many opportunities for the novelist, and Mr. Grier has written a thrilling tale. He draws an emphatic picture of the dangers of theories without practical knowledge in governing natives, for any iron-clad rules must fail when one is dealing with hot-blooded princes and rulers. It is not a pretty narrative, as a war never is, yet it is well to read such a story occasionally, for it awakens the interest in the people who are living on the frontier encountering danger every day, yet living nearly as possible up to the social standard in their own circle at home. The life needs all these small supports to keep them civilized. The characters are original yet real people, and the plot is well carried out, the startling events following closely upon each other. [Boston: L. C. Page & Co. Price, \$1.50.]

The Bertha Galland edition of Victor Hugo's "Notre Dame de Paris" will be peculiarly pleasing to the admirers of that charming actress in the role of the gypsy girl Esmeralda. The illustrations, taken from scenes in the play, are artistically reproduced, and there is a portrait of Miss Galland in the pose of the gypsy girl, "who dances best when her heart is saddest." The plot of Notre Dame is too well known to need detailed repetition. All readers of Hugo are familiar with the story which starts off with Esmeralda dancing on

a small rug, while her snow-white goat with golden-colored hoofs and horns stands gravely by, watching his mistress, ever ready for his part in the performance. The priest who is her persecutor is one of the bystanders who calls out that she is a witch. From this time on Esmeralda, having one object in view, to ascertain knowledge of her parents, dances on day after day. The reader will recall the scene in the square where Quasimodo, the horribly misshapen dwarf, who is the bell ringer at the church, is mocked by the mob and put into shackles. His cries for water are unheeded by all except one, Esmeralda, who obtains for him some of the precious fluid, and holds it to the poor fellow's lips. The other instance of the gypsy's good heart is exhibited when she saves a worthless fellow from hanging by the gypsy band by marrying him according to the gypsy laws. It will be remembered how the handsome Captain Phoebus makes love to Esmeralda, how the priest stabs him and lays the crime on the girl, how Esmeralda is tortured to confess her witchcraft, and how she is led to execution, from which fate she is saved by the dwarf, who tears her from the guards and runs with her to the church, demanding protection there for her. For the time the girl is saved, but the priest cannot rest until she is his or dead. At last her fate comes, torn from the arms of the mother she has just found. How the dwarf pushes the priest from the great height where he is watching Esmeralda in the executioner's hands, and disappears himself, to be found years after clasping the body of a woman, are dramatic scenes which will never be effaced from the memory of one who has read this great story. The black stream of sin which sweeps everything—innocent lives and all—before it is in evidence throughout. The man rescued from hanging by the gypsy girl will not risk himself even a little to reach forth a helping hand to save her, if by so doing he shall run any danger; while the poor dwarf, for the gift of water, gave up his life willingly. Captain Phoebus, in his vain glory and pride, cared so little for the girl who was willing to give all for him, would not even move a hand to aid her. The readiness of the mob to turn from blood-shedding to religion is well illustrated in the first execution scene; now thirsting for the girl's blood, and then falling to their knees in tears and happiness when the dwarf seeks the church with his precious bundle. Although changes must necessarily be made in the dramatization of the story, the graphic scenes in the book are indicative of the dramatic force of the original presentation. The edition is a handsome one, both in point of print, illustration and binding. The two volumes make as fine a gift as may be found in a day's search. [New York: A. Wessels Company.]

"A Captured Santa Claus," by Thomas Nelson Page, is a charming little story of the civil war, in which the family of a Confederate officer find themselves in sad straits at the Christmas season. The father is taken prisoner after bringing holiday presents to his little ones, but his captivity is to be trouble on the border he rides at night on his rounds about the defenses guarding Kemistan. Dick's sister and Mr. Burgrave arrive the same time, and already Mabel North has attracted the attention of the commissioner (Burgrave). Mabel is an irresistible girl who has been accustomed to have her own way all her life, and not knowing the ways of the border, she is the cause of much trouble.

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"Rogee Wolcott," by William Lawrence, D. D., is a biography that shows the author had great personal love for his subject. It is a noble tribute to the memory of a friend who is fully deserving of all the praise here accorded him in such generous measure. Mr. Wolcott was a man who united high ideals with practical common sense, and who embodied in his character the best qualities of the Puritan and the Cavalier. Of course, he belonged more directly by descent to the former, but it is reasonable to suppose that his family in the old country, originally loyal members of the Church of England, acquired some of the gentler graces that are not always associated with Puritan surroundings. He was courteous without being weak, and decided without showing any of the abruptness which repels. Still, he was not a man who wore his heart upon his sleeve, for he was naturally reserved, though he could exhibit genuine enthusiasm when his sympathies were enlisted in any movement of a serious or recreative character. All this is admirably set forth in Bishop Lawrence's unambitious and unobtrusive little book, in which much has been made of the life of a public man who had no taste for preserving in diary or journal or letters a record of his doings. The biographer in this life devotes his first chapter to the ancestry of Mr. Wolcott, and then goes on to speak of the affection that existed between the brothers, Huntington, who died young after serving in the great civil war, and Roger, who lived to occupy many positions of honor and responsibility in his native State. Following we have accounts of Roger's career at Harvard College, his worth as a private citizen and his important services as lieutenant-governor and governor of Massachusetts, including his patriotic efforts during the war with Spain, closing with a description of the last year of his honorable life. There are abundant and appropriate extracts from Mr. Wolcott's speeches in this volume, beginning with his Class-Day oration, in which he displayed his exalted ideas of American citizenship, and ending with his address on the Common, when he received the colors borne by Massachusetts men during the war with Spain. [Boston: Houghton, Mifflin & Co. Price, \$1.]

Will Carleton has a host of admirers who will doubtless read with eagerness his latest book of poems entitled "Songs of Two Centuries," but it would not be safe to predict that there is anything in this volume which will compare in popularity to "Over

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the Hills to the Poor House" and "Betsy and I are Out," two characteristic productions which secured for this writer the fame which he now enjoys. That he is the poet laureate of the farms and villages is perhaps sufficient glory; it is perhaps better to succeed in portraying in dialect certain phases of rural life than attempt something grander and fall. Mr. Carleton dedicates "Songs of Two Centuries" to the memory of the nineteenth and the success of the twentieth century, which dedication the poet explains as follows: "It was a great privilege to live within the nineteenth century with all its wonderful achievements. Few that has the privilege could have wished that their lot had been cast in any other. It has been, upon the whole, the most wonderful world drama of all thus far. The twentieth century has already made a fine beginning—largely as a continuation of the nineteenth, but also with some achievements of its own. What it will do before it grows old is a problem, but a problem full of hope. If this book carries with it the spirit of the century not long past, and aids in some measure the aspiration of the one that is now upon us, its highest purpose will be accomplished."

After unburdening himself of this prelude, Mr. Carleton settles down to business and turns out verses on a score of topics which have been classified under the following heads: "Songs of Months and Days," "Songs of Home Life," "Songs of the Rivers," "Songs of the Mountains," "Songs of the Nations" and "Songs of Pleasure and Pain." His fidelity to actual life in the country is to be commended, and his dialect is of the nature which may be easily comprehended. The opening poem expresses the spirit of the Christmas season with sentiments on "The Old Christmas Dinner," when "one of our fashioned Christmas dinner's worth a dozen nowadays," and then, turning the pages, we find some lines on the blushing arbutus which is under the snow.

Tolling the earth that loves them night,
But hoping to some day see the sky.

Among the "Songs of Home Life," the reader will find delightful poems which will recall many of the experiences of the boyhood days, and those who find joy in the hills and the river streams will be interested in his nature poems. "The Maid of the Mountain" takes the reader to the "Old Man of the Mountain," where "fleece clouds were hanging o'er his brow serene and high." The author's appreciative sympathy with all the moods of life is to be commended, even though his ability to express them in poetry may be questioned. [New York: Harper & Brothers. Price, \$1.50 net.]

Louise Alcott's stories for young people, like Jane Austen's tales for older readers, have a quality that makes them perennially attractive, and, therefore, the new issue of "Little Women," the first in the series of illustrated editions of Miss Alcott's works, will be warmly welcomed by gift buyers during this Christmas season. Alice Barker Stephens, who illustrates this handsomely bound volume, has reproduced Meg, Jo, Beth and Amy and other eminently natural creations of its author with unfailing accuracy in the quaint costumes of the sixties and with delightful artistic effect. [Boston: Little, Brown & Co. Price, \$2.]

"To every well-read man whose mother tongue is English, whether he be born in America or Australia, or within sound of Bow Bells, the little dot upon the map marked 'London' has an interest which surpasses that of any other spot on earth," writes Lucia Ames Mead in the opening chapter of her book, entitled "Milton's England." Mrs. Mead goes on to say

that in school days to him who claims ancestry from England Westminster Abbey looms larger than Chimborazo, and a half dozen miles of the tidal Thames have more of meaning to him than as many thousands of the Amazon, the Oxus and the Ganges. "To know London," continues the writer, "its mighty historic past and its complex stupendous present is to know the religion, the art, the science, the politics, the development, in short, of the Anglo-Saxon race." After this sweeping statement the writer suggests that there may be no better method of coming to know what is most interesting in this centre of all English life than studying one of the supremely important periods of its long history, when it was touched by the spiritual genius of one of England's most noble sons. To present the England as it was in Milton's time, and explain the forces which were at work at that period, has been Mrs. Mead's purpose, and that she has successfully accomplished her object is shown by a perusal of her book.

Beginning with a panoramic view of London in 1608, when the great poet was born, the gradual development of Milton's personality and genius is carefully traced. He is now in Bread's street, now at Cambridge, from which place he retired at twenty-four years of age to his father's new home at Horton, about seventeen miles west of London. As Milton's father was in easy circumstances, the son never earned money until he was thirty-two years of age. Up to this time he was his own master, without care, and with plenty of leisure to devote to his perusal of the Greek and Latin authors. When about thirty Milton traveled in France and Italy, and upon his return went to live in London. The writer graphically pictures the London Milton then saw and knew, and at the same time points out those landmarks which remain to remind us of the famous poet. At the time of the rising of the commoner, Oliver Cromwell, Milton's sympathies were with that sturdy Puritan while Cromwell on his part honored Milton and evinced a real friendship for him. The author pictures the poet blind in his home, amid sorrowful surroundings. There the motherless daughters worked over the problems of "Paradise Lost" with the great poet, and the unloving atmosphere of this home is too painful to dwell upon. Those who have studied and admired Milton will welcome this presentation of the England he loved and in which he lived so well. To wander with the author over the places he was familiar with and which seem to partake of his personality, is, in some way, a pleasant recreation. Upon every man the times in which he lives have a lasting influence, and it is invariably the case that great events produce great men. While Milton would have been great in any age, yet "Paradise Lost" could hardly have been given to us by a man who had not imbibed the Puritanical spirit—the uncompromising sense of right and wrong. The book is pleasing in style and will be a valuable addition to both the reader and student of Milton. It is handsomely bound, generously illustrated, and a most appropriate gift book. [Boston: L. C. Page & Co. Price, \$1.50.]

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The season of the amateur minstrel is upon us.

At all events there is a certain originality in getting in trouble by shooting a deer in Malden.

That empty uniform drawn by a Salem cartoonist seems to have fitted the city marshal without the least difficulty.

It goes without saying that the Doukhobors who met their comrade at Montreal the other day didn't meet him with a carriage and pair.

The reporter who interviewed Mr. Hill seemed to have stumbled on a diagnosis of conditions that is not altogether confined to that successful railroad president.

The legal payroll of the Northwestern Securities Company is enough to make a youth feel inclined to go West, young man, and become a corporation lawyer.

Conditions that have tied up the coal may have an incidental and unexpected value in bringing to light some unexpected facts concerning child labor in Pennsylvania.

Perhaps there is a romance of the governor's staff of New Hampshire that is yet to be written. The 250,000 immediate readers of each new novel are ready and waiting.

Winter will have another terror if many citizens feel tempted to follow the example of the Beverly marksman who took down his trusty rifle and went gunning for icicles.

Dr. Lorimer's advice to profanity tempted man is practical as well as Christian—one may swear without swearing, and that without descending to the paltry makeshift of "Lands Sake!" or "Good Gracious!"

One of the misfortunes of being a railroad president's son is that the general public is very much interested in the efficiency or non-efficiency that you may happen to display in a minor position in the company's offices.

Mr. Delmar, author of the Hohenzollern plays, is coming over as a "modest bearer of the growing respect of Germany for the self-made culture of America." We are glad that he didn't say the "home-made" culture.

We suspect if the bill providing for a national theatre passes Congress that congressmen will be persona grata. But how will the great American people draw the line between the plays that are presentable in a national theatre and those that are not.

Perhaps the rain took pity on the street department when it cleaned up the snow so expeditiously. Not that the street department needs pity, but it has been a good candidate for sympathy with the snow falling and a good proportion of its force busily employed in carting coal.

"The delight of the audience was continuous," says a contemporary critic immediately after describing the anguish of Du Barry on her way to the scaffold in Mr. Belasco's production. And yet the critic probably intended to suggest no comparison between the modern drama and the ancient gladiatorial combat.

Ever since the pleasant days of Sixteen String Jack the bean, buck, macaroni, dandy, dude or exquisite has been a particularly grateful figure in police court reports. Hence the gratitude of the Boston press for the charm recently imparted to local legal proceedings by the prisoner in the fine black suit, the light overcoat, and with his hair combed back in the latest fashion. But what is this latest fashion? And is there any connection that has so far escaped students of criminology between crime and a light overcoat?

In line with recent quarantine measures of New York and other States against the New England States infected with the cattle disease, is the decision given out this month by the United States Supreme Court. This decree sustains the peculiar stock quarantine law of Colorado, a law which prohibits the importation of cattle or other live stock into the State from points south of the thirty-sixth parallel of latitude between April and November, unless they bear bills of health. The law was attacked as unconstitutional, and also as antagonistic to the interstate commerce law and the animal industry law, but the court held the law to be in accord with the right of the State to protect its own citizens. Thus the modern quarantine may be so contrived as merely to play the part of a customs tariff in its effect upon trade.

Good roads and good rural mail service naturally go together, while poor roads are sure to hinder such advantages. Some of the free delivery routes have actually been forced to suspend for the winter because of impassable highways, while other routes are carried on only with the greatest difficulty and many delays. The rural carrier cannot possibly make regular time and give good service over poor roads during winter and spring months. Recent official inquiries show that at least one thousand of the mail routes are over roads which need repair before the service can be fairly satisfactory. Supervisors and other officials concerned are being awakened to the situation. Better roads will raise the tax rate a little, but farmers have had time to appreciate the delivery routes, and will not give them up. Thus the improved country mail service is becoming one of the main agents toward hastening the day of good roads.

Official heads of Massachusetts agriculture have set other States good example in appointing a committee to look after new laws which concern the interests of farmers. It is commonly said that farmers can have anything they want from the Legislature if they will only ask for it. Yet when hearings are held on important new measures, only a handful may be present, of which, perhaps, none may claim to represent other farmers, and the proposed improvement fails because the farmers do not seem to care about it. Other interests of far less importance gain more attention because well organized and thus able to send men to the hearings who can tell just what they want. The new committee makes the State Board of Agriculture the connecting link between the farmers and the State Legislature. The State Board has every facility for finding out just what the farmers need and want, and through this com-



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mittee, which appears to have been very wisely selected in its membership, direct definite influence can be brought to bear on the law-making body.

Christmas Charity.

Those who were inclined to sneer at the members of the Salvation Army in their efforts to convert the sinner on the public streets have discovered that these workers in the slums can devote themselves unselfishly to more practical worldly labor than praying, preaching and singing psalms, and that they give as much time to performing deeds of charity as they do to the saving of souls. It is hard to convince a man of the truth of the gospel when his stomach is empty and his lodging is the cold ground, for where there is a want of the necessities of life, there is nearly always discontent with both divine and human laws.

The labors of the soldiers of the Salvation Army to feed the hungry on Thanksgiving were rewarded by a generous response from the public to which they appealed, and hundreds enjoyed good meals who might otherwise have dined on atmospheric pudding. The worthy laborers to which we refer are now asking for assistance in providing Christmas cheer for the needy, and no one, who is even reasonably prosperous, should fail to drop a few dimes into the Salvation Army contribution boxes, which are displayed so conspicuously on many of our thoroughfares. The Salvation Army knows no creed or class in its charitable ministrations, and that it gathers in all that require its help without question or discrimination. There are no especially favored ones in the distribution of its aid. All will be welcomed to its bountifully spread tables on Christmas Day who have no other places to seek refreshment. Some other organizations have special pensioners to whom they give generosity. The Salvation Army has none of these. It welcomes all with strict impartiality.

News of the Cattle Disease.

Some headway is being made against the cattle epidemic during the past week, and with no unexpected outbreaks in new localities, the end of the quarantine will soon be in sight. But as yet the authorities can set no definite limit.

"The situation has somewhat improved," said Dr. Salmon. "The infected animals which were shipped to Vermont have been traced, and twenty diseased herds in that State have been located and bought for slaughter. These herds were scattered over a district thirty miles wide, and some of them contained very high-grade stock. The 321 head of cattle comprising these herds are now being slaughtered, as also the sheep and hogs on the same farms. Two of these herds were newly infected, and only reported Saturday, so that while it is hoped that all of the infection has been traced, it is possible that other diseased herds may yet be found."

"Every effort is being made to eradicate the disease entirely from Vermont because of the great danger of diseased animals being shipped from there to other parts of New England or to the States farther West. While quarantine has done much to reduce the danger of such shipments, several attempts to evade it have been detected, and there is always a possibility of some one violating it either through ignorance or maliciousness."

"In New Hampshire, two diseased herds have been found, and a third one reported, but this report is not yet confirmed. One of these herds has been slaughtered and the premises disinfected."

"In Massachusetts the animals have been slaughtered from five premises, three of these being at Barre and Pepperell, the two extreme westerly points of the contagion. Several newly infected herds have been found in Massachusetts during the week, so that, on the whole, there are probably as many diseased animals alive today as there were a week ago. The infected district, however, is smaller than it was, the quarantines are being more generally observed, and cattle owners have been impressed with the fact that it is dangerous to visit diseased herds, and then return to take care of their own stock. To this extent the situation has improved; but the existence of over ninety diseased herds, containing some eighteen hundred animals, any of which is capable of spreading the disease, and starting such outbreaks as the one which has proved so destructive in Vermont, is sufficient evidence that we are not yet out of danger."

"There appears to have been an effort recently to circulate false reports concerning the plans of the authorities, and to excite opposition to their efforts among the owners of the diseased herds. It has been said that barns would be burned and the hardships of the cattle owners unnecessarily increased. The circulation of such reports is to be regretted. There has been no thought of burning buildings, and those in charge of the work of suppressing the disease are trying to do all they can to lighten the burdens of the owners. The greater part of the owners of diseased herds are not only willing but anxious that their cattle should be destroyed at the compensation already provided for, and that the contagion should be stamped out at the earliest moment. They see that this is greatly to

their interest as well as to the interest of the community. Many of them have visited the office of the bureau of animal industry urging that work be begun on their premises as soon as possible. It is the earnest desire of the United States Department of Agriculture that the people of Massachusetts should feel that this work is undertaken in a friendly spirit for their benefit."

"The question is often asked, How long will the Federal quarantine on this section of the country be maintained? It is impossible at this time to make anything like an accurate estimate. I can only say that the safety of the great stock industry of the country demands that it be maintained until the contagion is stamped out. The length of time that will be required to accomplish this depends partly upon the weather and partly upon the co-operation of the cattle owners and commercial interests. If the contagion has not been carried beyond the district already defined, and the quarantine measures are carefully observed, a few weeks may be sufficient."

Then and Now.

In every age there have been complaints of the degeneracy of the times, and attention has been directed to previous periods when the people were wiser and better, and there was consequently less vice and corruption. But an examination of these good old days very rarely shows that human nature was any different from what it was at the later period in which the reflection was made. With the growth of population there is naturally an increase in the number of the viciously inclined, but we believe there are as many virtuous people, comparatively speaking, in this country as there were when it consisted of fewer States, and its social and business methods were more primitive."

We are apt in Boston to mourn over the so-called degeneracy of our youth, and we point to a period when they were more reverent to their superiors, and less given to assuming the manners and fashions of their elders. Yet the precocity of boys was as frequently reflected upon three generations ago as it is this year 1902, which is rapidly approaching its end. In 1825, Mr. Green, the first wife of Daniel Webster, as we learn from the collection of his letters just published by McClure, Phillips & Co., wrote to her distinguished husband about her son, as follows: "Daniel likes his school very much, but I am thinking you did not sufficiently appreciate Mr. Green. D. says he does not have half as much work as he had there. I fear there is more play than anything else. I do not mean in school, but there are so many boys here I am convinced that Boston is not a good place for Daniel. Boys must have parties and balls, wear white kid gloves, and I know not what. But I have endeavored to reconcile Daniel to the privation of living without these things. There is the greatest folly at this day, children are anticipating all the pleasures and amusements of gentlemen and ladies. What, then, can be left for those that arrive at that period, I am unable to foresee. Boys even have supper parties, and in some instances have drunk so much wine they could hardly get home, and could not be blamed. How could any one suppose they could have sufficient judgment to govern them?"

So it seems from this that the gilded youth of Boston in the twenties were quite as much given to sowing their wild oats as they are now, when the drinking habit is less general and open. There is one thing, however, in which the boys of the past did not indulge, no matter how wayward they might be, and that is cigarette smoking. This debilitating habit had not then come in. If it had, what would Mrs. Grace Webster not have said about the demoralization of youth in Boston. But other times, other manners, and the boys she mourns over have been long in their graves. Some of them, no doubt, followed the road to ruin, but others possibly reformed and became pillars of society. The poet says:

How many a father have I seen,
A sober man among his boys,
Whose youth was passed in foolish noise,
Who wears his manhood hale and green.

Peculiarly Perplexing.

There is something peculiarly perplexing in the coal situation. At one time we are told there is plenty of coal to be obtained, but that the transportation facilities for bringing it to Boston are inadequate. Again we are informed that coal is scarce, and that vessels have to wait days and weeks before they can be loaded with this desirable fuel. Meanwhile coal continues to be sold at high prices, which are maintained, it is asserted, on account of the heavy freights.

But amid all this contention something should be done, and that, too, immediately for the relief of the people. If this is a government of the people for the people, it should protect the people, and if the removal of the duty of sixty-seven cents a ton on foreign coal will bring relief to coal consumers, it should be brought about at once. It is not to be supposed that the present mild weather will continue throughout the winter, and though men, women and children are not actually suffering as they were a week ago, it is still difficult to obtain coal, except in small quantities. Should there be a recurrence of severe weather, there would be a repetition of the rush to the offices of

the coal companies by crowds clamoring for what they cannot get.

There seems to be strong opposition to representative McCall's bill providing for the temporary suspension of the coastwise laws, so that tramp steamers and other foreign vessels may be allowed to carry coal to Eastern ports in which Boston is included. As this would only cover a period of thirty days, it is not easy to see how any serious harm could be done by the passing of the bill, except it might be recorded as a precedent that might be used to the disadvantage of our legitimate shipping at some future time. Nevertheless, law-makers, do something to keep us warm.

Why the Grange is Needed.

Too many farmers look upon the grange organization as of possible use only when it gets them discount rates at the store, or a supply of free seeds and Government reports. It will do good to those readers to consider for a few moments the enthusiastic words of Deputy C. S. Stetson, in his recent talk to the Cumberland County (Me.) grangers. Said Mr. Stetson:

"The man who stays at home and does not mingle with his fellows becomes narrow and contracted. He cannot get the right perspective of life. God has never placed all the good things of life in any one spot. We must mingle with our fellows in order to broaden out. To clasp hands and look into the eyes of our neighbors and friends was an inspiration to better and purer lives. There is no one thing in the country today that is doing so much for the social life of our farmers as the grange, but I regret that we do not all fully realize the force of this fact. If you look and see the men and women who never attend a grange or church, but who simply dig for the almighty dollar, you will find them unfitted to lead and guide the coming generations. This order is doing a grand work in reviving the moral and intellectual character of our people. There is no occupation so independent as that of the tiller of the soil. It makes us all better and leads us to enlarge ourselves by helping others."

As I look around and see so many vacant and deserted homes, it makes me feel sad. There are farms that were once fertile, but now growing up to bushes. There are homes that were once happy, but now they are desolate, and wild weeds are gathering on the walls. If the young men and women who once lived in those homes could only return and look at them, it would make them sad, too. Thousands of those young people have gone forth from among us, and of many of them we are all justly proud. There are far more, however, from whom we have never heard, and who have gone down in the fierce struggle of life. How much better off they would have been had they remained in the old homes! The old farm and the old oaken bucket still welcome them back. Let them come to the homes of their youth, and prosperity will once again be theirs and ours. We shall all be better off. A sturdy race of men and women will result. Our fields are greener and our skies are brighter than are those to the lands where they have gone. The birds sing sweeter here, and they will warble their notes of welcome on their return."

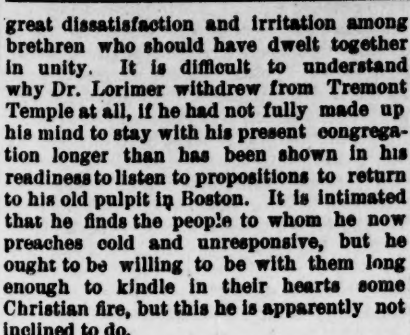
Every person who has the best interest of his fellows at heart must strive to further the interests of the grange. We cannot be independent of each other. We lean on each other and exchange our ideas and our discoveries. Our young men and women must be made to see this and to fit themselves for the responsibilities of the future. I also desire to impress upon the fathers their own responsibility. Encourage your boys. Don't give your boys and girls a lamb or a calf, and then when it has reached maturity sell it for a mowing machine. Nothing so discourages a boy as that, and nothing will so quickly send him from home. Have an interest in your children's ambitions and their hopes. When they have money let them use it as they please. You will be astonished to see the business instincts develop. They will use their money wisely and well."

A grange home is a necessity. Don't hesitate to build one on account of the debt incurred. You can pay for it in five years, and in the meantime you will vastly increase the efficiency of your grange. It will be a means of developing a better and a broader manhood. It will be an inspiration to do better and broader work. We all find hard places, but these are the lot of man. The men and women who can stand up and battle with these adverse circumstances will be the future leaders of our order."

Dr. Lorimer's Position.

After much wrangling and much unseemly discussion, it has been decided to call Dr. George C. Lorimer back to the Tremont Temple. This result was reached at a meeting of members of the church on Friday night, which represented less than one-half the congregation. This was not a very glorious victory, and Dr. Lorimer can hardly consider it complimentary. A lack of interest in the meeting was strongly exhibited in the fact that there were so many men among the absentees.

There has been much disingenuousness, to put it mildly, in all the barking and filling that has been noticeable since Dr. Lorimer left Boston for New York, and



FAIRBANKS-MORSE
GASOLINE ENGINES.
FOR ALL PURPOSES.
IN SIZE FROM 1 1/2 TO 60 HORSE-POWER.
THE JACK OF ALL TRADES.
1 1/2 ACTUAL HORSE-POWER, (KNOWN AS
MAY BE DISCONNECTED AND USED FOR
ALL KINDS OF FARM WORK,
SUCH AS
SAWING, GRINDING, ENRIAGE CUTTING, ETC.
SEND FOR CATALOGUE.
CHARLES J. JAGER COMPANY,
174 HIGH ST., BOSTON, MASS.

great dissatisfaction and irritation among brethren who should have dwelt together in unity. It is difficult to understand why Dr. Lorimer withdrew from Tremont Temple at all, if he had not fully made up his mind to stay with his present congregation longer than has been shown in his readiness to listen to propositions to return to his old pulpit in Boston. It is intimated that he finds the people to whom he now preaches cold and unresponsive, but he ought to be willing to be with them long enough to kindle in their hearts some Christian fire, but this he is apparently not inclined to do.

Anyway, it looks now as if he would lose prestige as a pastor if he were again located in Boston in a place that he vacated, in spite of the remonstrance of many of his friends, of his own free will. Perhaps it would be well for him to remember that a house divided against itself cannot stand, and that he is likely, if he accepts the call, to see a striking verification of this saying.

An Expert on the Cattle Plague.

What animals are affected by this disease? All cloven-footed creatures, such as cattle, sheep and swine. Horses are at times liable to the complaint, now and then dogs, and even poultry. Man is by no means exempt. There have been many instances where human beings have contracted the disease by drinking the milk of an infected cow. Professor Haidfeld, a German scientist, experimented in this matter, and to do so in the most effective manner he drank milk taken from a cow that was suffering with the disease. In a few days he was taken in the same manner, and the disease ran its course through his system. Nearly all the different animals as well as man are subject to the scourge. What are the symptoms of the foot and mouth disease? In cattle, they begin to be affected in two or three days after being exposed. The animal groans restlessly and uneasily. It refuses its food and soon begins to fall away. The temperature rises rapidly until it reaches from 106 to considerably higher figures. In two days more salivation begins to make its appearance. By looking in the mouth you will now see that the mucous membrane is inflamed and the surface is covered with blisters. These are superficially seated, as the blisters are elevations of the skin and contain a watery and straw colored fluid. These blisters may be as large as a pin head or they may be as large as a pea. Sometimes they are on the outside of the mouth as well as the inside. The gums, cheeks and throat are all affected.

The water in these blisters contains the infection. When they burst the germ drops out and infects everything that it touches. The surface then becomes raw and very sore, and this is increased by the constant motion of the animal's tongue and jaws. It becomes more difficult to eat and the creature soon becomes weak and emaciated. The blisters next appear on the foot and usually between the division of the hoof. They are the same as those on the mouth, and when they burst and run down the danger of decay and infection becomes greater. There is a great pain in the foot, and the animal wants to lie down. When in the pasture it can no longer get around but keeps in one place. The flesh falls away rapidly and the creature is very weak. The blisters next appear on the udder and the belly. This is doubtless caused by infection from the hands of the milker. In fact, the whole region becomes covered with blisters, and of course the milk is badly infected.

Sheep and pigs suffer in a similar manner, but in them the lesions are more confined to the feet. Sometimes in pigs the blisters appear on the snout instead of the inside. Even birds have the trouble, and it shows on the comb and feet. In man the blisters come in the mouth. The throat and cheeks are badly affected. A Berlin student once had the disease, and it was discovered that his father had an infected herd. He had sent his son some butter with the result of giving him the disease. In the case of men there may be no serious danger, but in children it frequently fatal in animals. The recovery is usually about three weeks, and the greatest danger is in the financial loss which accompanies a run of the epidemic. In young animals it is far more fatal than in the old ones. Usually about sixty per cent. recover.

What is the treatment of this disease? Properly speaking, there is no treatment. We can at best but alleviate the sufferings of the animal and prevent the subsequent complications. It runs its course quite quietly. Good nursing is the principal becomes fatal.

The foot and mouth disease is seldom requirement. Wash the affected parts with alum and borax water. Take good care of the feet, and use antiseptics, such as carbolic acid and glycerine. The greatest care must be taken of the feet if you wish to avoid after trouble. After the vesicles burst and the place becomes raw and sore, the danger from blood poisoning is very great.

What is the cause of this disease? We do not know. This matter has been investigated for years by scientists, but the question is by no means settled. It is doubtless a germ of bacteria, but it has never yet been discovered. Much hard work has been done to do this, but as yet it has not been successful. In Germany there are two commissioners devoted especially to this work. They have been at it for six years, but yet we do not know the cause of this disease, although they have added much to our stock of knowledge. In the great majority of germ diseases we can see the bacteria with a microscope, and we can even cultivate them outside of the body. If we force this bacteria fluid through a porcelain filter the germs are completely taken out; but in the case of the foot and mouth bacteria it will go right through a porcelain filter, and it is so small that we cannot see it with a microscope.

How is this disease spread? It can be done by direct contact with the animals, and it can be carried by birds through the air. Experiments have been made with pigeons

which demonstrate this fact. Although it is not always carried in this way, it is easy to see how it can be. It can be disseminated by traffic on the cars and by traveling people who have been on infected farms. It can be contracted from manure, by milk, cheese, and, in fact, by all the products of the infected animal.

Cow Feeding and Tonics.

During the last three months of pregnancy, when the cow gives often but little and sometimes no milk, she is usually fed upon starchy and fibrous foods as being the proper time to dispose of them. The soon-to-be mother often exhausts her own vitality in an effort to build up her young in foods deficient in bone, flesh and blood-forming elements. Often she appears in so-called good condition when she is very deficient in muscular development, and at time of parturition the ill effects of that trying period are on hand to annoy and frequently to destroy the usefulness of the cow.

The calf is dropped, a fine clump of a thing, with all hope of a fine dairy cow blighted, and we say it pays better to buy our stock than to raise it. Do not depart from the balanced ration during this period; keep up the oat or wheat foods, preferably oats, on account of the alkaloid found in the oil of the grain, and a splendid nerve tonic. Of course she will not require as many pounds a day.

Do not fear goat or milk fever, or inflammation on account of this feeding. These diseases do not come from a well-nurtured body, but, on the other hand, from indigestion and malnutrition, and goat is the result of catching cold. It is easier to prevent disease than to cure it, and a half or three-quarters of a pound of Epsom salts given with half-ounce of gentian a couple of times before parturition, will usually ward off any possibility of trouble when proper feeding has been followed.

The market is filled with all sorts of patent foods, a fraud pure and simple. They are not foods, nor are many of them medicines. They seem to be a hybrid, a cross between a food and a medicine, and, like the hybrid mule, always kicking up trouble. I term them a fraud because they cost from four to ten times their value. If your animal needs some kind of a tonic or restorative for one cause or another, or out of condition for one cause or another, I can give you a condition powder, and much better than the food you buy, and much better than many of them, at a trifling cost as compared to prices asked for condimental foods.

100 lbs. Unseed meal..... \$1.75
10 " Epsom salts..... .50
5 " saltpetre..... .20
5 " salt..... .15
5 " powdered charcoal..... .75
4 " gentian..... .40
2 " sulphur..... .40
1 " gentian..... .20
133 lbs. 30c a lb. \$39.15
I do not think any one practices the correct method of salting stock, viz., mixing it thoroughly with the food. I think this is the only ideal way. We do not practice it, however, because it is not ethical, but come as near to the system as possible by giving it on the grain at time of feeding. An opossum to any method that requires the cow to take her salt separately from her food. The official powder is to increase the action of salivary glands, and the action needs stimulating during mastication. Do not fail to give her salt once a day.

As cow keepers, as soon as we come to realize that each cow has an individuality and that to be studied and its requirements met and satisfied, we shall then be fairly well started on the way to dairy success.
Denmark, N. Y. H. E. COOK.



I Can Sell Your Farm
Where it is. Send description, state price and terms. Have your property sold in 14 days.
W. M. Ostrander, 1816 N. A. Bldg., Philadelphia

\$12.50 FOR 200 EGGS INCUBATOR
Perfect in construction and action. Has every modern improvement. Write for catalog to-day.
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PUMPS
FOR ALL PURPOSES.
HAND, STEAM, POWER.
HOSE AND PIPE.
PROMPT DELIVERIES.
CHARLES J. JAGER CO., 174 HIGH ST., BOSTON, MASS.

Star Incubator For Sale
One new 240 egg, only run twice, price \$15.00.
Geo. Steengrabe, So. Plainfield, N. J.

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Isn't really a better fence, then we are mistaken. The material and the labor on it, cost more, and we candidly believe it is better and lasts longer.
PAGE WIRE FENCE CO., ADRIAN, MICH.

BOSTON
ARRIVALS
For the
This week...
Last week...
One year ago...
Price
BEEF—Per
side, tallow
quality, \$5.00
third quality,
\$4.25 to \$5.00
\$3.00 to \$4.00
MILK COW
cows \$50.00 to
\$75.00
STOCKS—T
ings, \$15.00
old, \$25.00
SHEEP—Pe
3 to 4c; sheep
\$5; lambs, \$3
FAT HOGS—
weight, shot;
dressed hogs,
7c to 8c
FRESH CALF
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3 to 3c
FISH—40c
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The Markets.

BOSTON LIVE STOCK MARKETS.

ARRIVALS OF LIVE STOCK AT WATERTOWN AND BRIGHTON.

For the week ending Dec. 24, 1902.

	Shotes	Fat	Calves	Veals
Cattle	13,726	35,465	422	422
Sheep	13,726	35,465	422	422
Pigs	13,726	35,465	422	422
Swine	13,726	35,465	422	422

This week... 13,726... 35,465... 422... 422

Last week... 13,726... 35,465... 422... 422

Year to date... 13,726... 35,465... 422... 422

Prices on Northern Cattle.

Cattle—Per hundred pounds on total weight of

ade, tallow and meat, extra, \$6.75; 75c; first

quality, \$5.00; second quality, \$4.50; 50c; 50c

and quality, \$4.00; 50c; a few choice single pairs,

\$5.00; 50c; some of the poorest bulls, etc.,

\$3.00; 50c; Western steers, \$4.75.

MILK Cows—Fair quality \$3.00; 50c; 50c; choice

\$5.00; 50c; 50c.

STOCKS—Thin young cattle for farmers: Year-

lings, \$1.50; two-year-olds, \$1.50; three-year-

lings, \$2.00; 50c; 50c.

SHEEP—Per pound, live weight, 24c; extra,

25c; sheep and lambs per head in lots, \$2.50

to \$3.00; 50c; 50c.

Pigs—Per hundred, Western, 64c; live

weight, shot, whole, retail, 60c; country

dressed hogs, 71c; 50c.

VEAL CALVES—4 to 7 lb; country lots, 64c

to 65c.

CALF SKINS—40c; 50c; dairy skins, 40c; 50c

to 50c; 50c; 50c.

TALLOW—Brighton, 45c; 50c; country lots,

50c; 50c; 50c.

PELTS—40c; 50c; 50c.

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Creamery, northern firsts...	22 1/2
Creamery, western firsts...	22 1/2
Creamery, second...	22 1/2
Creamery, eastern...	22 1/2
Dairy, N. Y., extra...	22 1/2
Dairy, N. Y., extra...	22 1/2
Renovated...	22 1/2
Boxes...	22 1/2
Extra northern creamery...	22 1/2
Common to good...	22 1/2
Extra northern creamery...	22 1/2
Extra northern dairy...	22 1/2
Common to good...	22 1/2

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DEBORAH—R. F. Orange County, N. Y. It is always good practice on the part of a dairyman to have his cows corned. The cows are much more quiet, easily managed and of a more lovable disposition, besides giving more milk and butter from the same feed, as they are not using up their energy fighting. But if a cow is to be sold when dry it will pay to dehorn, as the appearance is not so good after dehorning, and the buyer, not being able to tell the age from the horns, is apt to hesitate. Use one of the patent spring clippers. Send for a circular to the corn by means of a rope laid around the base of the horns, and passing behind the cow so that when drawn tight it will pull her head around to one side. Do not put anything on the wound except in fly time, when a little tar ointment may be used.

LAME COLT.—F. A. H. Providence County, R. I.

A very common kind of injury to joints and to parts below the knees and hocks is a considerable thickening of the skin, which is caused by absorption, but sometimes it is not, and when it is permanent treatment does not do much to help matters. Probably the best way in due time down. Some would blister such a case, but it is better to use a strong iodine to increase the swelling. Try application of tincture of iodine to the swelling, also rubbing and working the joint with the hands.

FEDDING TWICE A DAY.

At a recent dairyman's meeting attended by writer, one of the speakers, a very practical and successful man, advised feeding cows only twice a day, since he had seen the plan employed with results just as good as when the cattle had three meals, with a considerable saving in labor. Yet the speaker confessed that he still fed his cows three times a day, merely because he feared that a change would cause temporary shrinkage in the milk yield. But there is no need to fear such effects. The writer made the change from three to only two feedings without so far as could be observed, losing a single quart of milk. It was done gradually in about four days, making the noon meal lighter each day and increasing the other feeds until the change was made before the cows knew what was going on. The result was very large as compared with that of a horse or a human being, and she can easily hold enough to last twelve hours. Water should be given in the forenoon. The two-feed plan is quite a labor-saver.

A FRESH FOOD FOR STOCK.

The new German protein feed, needs with increasing demand among the cattle feeders of that country. It is made of dried blood slaughter-house waste and ground grain hulls into a compound cake that furnishes a fattening food for all farm animals and also keeps the most economically. Repeated tests have been made on army horses and on various farms in the making of meats, and in each case good results have been obtained. The stuff is dubbed "but-krafftine" or blood-strength food, and the formula so far divides into two parts: one of steam-dried blood, certain kinds of meat scraps prepared under scientific control, hulls of grain finely ground, hawks of peanuts, the inner lining of the peanut shells and molasses. The mass is pressed into cakes. The value of this food for poultry and hogs has long been recognized in this country, and there may be some disposition to experiment with a mixture which German feeders use with success. But on account of the abundance of fodder, silage and other by-products in America, a compound involving so much cost and labor is likely to prove useful only to a very limited extent.

SUGAR FOODS.










The German compound, to which allusion is made in the preceding article, is almost certainly probably the waste molasses of beet-sugar factories, which, being very rich in heating and fattening elements, serves as a balance to the lean flesh-producing elements of the meat or blood. The German compound is preceded in the use of molasses for the nourishment of domestic animals. The best molasses is employed upon a large scale in the German army for the nourishment of the cavalry horse. In France today the products of the cane and the beet are very numerous, and they have all given good results. Molasses as food for work horses stimulates energy when fed with grain and hay rations and makes the feed more palatable. When fed to beef cattle it improves the fattening. It is being extensively fed to hogs and mules on the sugar plantations of the South, and with good results. Work horses on the sugar plantations of the Hawaiian Islands get little or nothing of the cane molasses, and are said to keep in good working condition. There is no reason why waste molasses, with dried blood and butchers' scraps, should not prove a very economical and good food for hogs, poultry and possibly for other stock.

GRAIN MIXTURES.

The average cattle feeder and dairyman has no inclination to test unusual mixtures and rations. He is looking for the combination of well-tried foods that will give him the most milk for his money. The trouble in giving him the best food is that the time to test the various mixtures are constantly changing. All kinds of grain are high this season. Taking feeding effect and cost into consideration, the following mixtures are suggested by Prof. J. B. Lindsay, the Massachusetts Experiment Station. One hundred pounds bran, one hundred pounds cottonseed or gluten meal, mix and feed seven to eight quarts daily. (2) One hundred pounds bran, 150 pounds corn and cob meal, one hundred pounds cottonseed or gluten meal, mix and feed seven to eight quarts daily. (3) One hundred pounds corn and cob meal, 125 pounds gluten feed, mix and feed five to six quarts daily. (4) One hundred pounds bran, 150 pounds corn and cob meal, one hundred pounds dried grain, mix and feed five to six quarts daily. (5) One hundred pounds bran, 150 pounds corn and cob meal, one hundred pounds dried grain, mix and feed five to six quarts daily. (6) One hundred pounds bran, 150 pounds corn and cob meal, one hundred pounds dried grain, mix and feed five to six quarts daily. (7) One hundred pounds bran, 150 pounds corn and cob meal, one hundred pounds dried grain, mix and feed five to six quarts daily. (8) One hundred pounds bran, 150 pounds corn and cob meal, one hundred pounds dried grain, mix and feed five to six quarts daily. (9) One hundred pounds bran, 150 pounds corn and cob meal, one hundred pounds dried grain, mix and feed five to six quarts daily. (10) One hundred pounds bran, 150 pounds corn and cob meal, one hundred pounds dried grain, mix and feed five to six quarts daily. (11) One hundred pounds bran, 150 pounds corn and cob meal, one hundred pounds dried grain, mix and feed five to six quarts daily. 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Home Dressmaking

Hints by May Manton.

4002 Doll's Wear
consisting of
Gumpe, Petticoats,
waivers, Chemise
Underwaist, For
14, 18 and 22
long.

4003 Doll with Outfit.
Set of Three-Piece Skirt, Shirt W
Cost and Tam O'Shanter.

Itself is of heavy unbleached
is carefully shaped, but easily m
may be bran, sawdust, cotton-batt
The features can be painted or

The garments are as perfectly designed as the models. The skirt includes a wide belt and a circular skirt with circular sides. The waist is a simple band. The latest style bishop sleeves are included. The coat is cut on the smartest pattern, with a high collar and revers, and the well-known "Tam O'Shanter" collar. The doll, 3/4 of a yard of material, is cut on the same pattern as the coat.

to cut the skirt and coat, $1\frac{1}{2}$ yards
yards 44 inches wide; to cut the shawl
yards wide or $\frac{1}{2}$ yard 32 inches wide
 $1\frac{1}{2}$ yard in any width.
ern, 3722, is cut in one size only.
about twenty-two inches when finished.

Wardrobe Consisting of

pe, Petticoat, Drawers, Chemise and Under-Waist. No. 4092

illustrated is all that is required for wardrobe. The little garments are precise, and are shaped on exact patterns for children's clothes. They are designed for cambric or long tulle, or narrow lace or needlework. They may be, and is drawn up by ribbon run through lace beading. They are perfectly shaped and buttoned at the edge are buttons, by means of which they can be attached. The dresses after these made for small human beings are made by means of buttons and ribbon, and are perfectly straight, but the petticoats are fitted bodice. They are attached to a fitted bodice. They are made, is made of dotted cashmere, and is trimmed with narrow velvet. They are full, in baby style, with a shape of full sleeves. As shown, it is a simple, but can be high of neck and having the guimpe, which should be made of linen or lawn, with yoke of

Material 27 inches wide or $\frac{3}{4}$ yards

ven Gored
to 40 waist.

4306 Monte
Cost, 32 to 40

Reverted Plaits Stitched to Form "Seams" and Strap Trimming.

is shaped with seven gores, with the sheet and are stitched to provide depth, from which point the ample flare. The back fits snugly at the top, in habit style, and flares. The straps are stitched to the back at the centre of the waist can be omitted when a plain skirt.

Quantity of material required for the bodice 21 inches wide, 94 yards 27 inches wide or 54 yards 52 inches wide as figure or nap; 54 yards 42 inches wide when material is 52 inches wide when material is 52 inches wide with 14 yards of material.

Pattern, 4367, is cut in sizes for a 22, waist measure.

Monte Carlo Coat. 4368 is fitted by means of shoulder and bust darts. The fronts fit easily and the skirt is inverted pleat at the centre. Capped sleeves, the double capes and a rolling collar, that can be raised.

when desired. The sleeves are washed at the outside, so allowing




n. 4308, is cut in sizes for a 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100, 102, 104, 106, 108, 110, 112, 114, 116, 118, 120, 122, 124, 126, 128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152, 154, 156, 158, 160, 162, 164, 166, 168, 170, 172, 174, 176, 178, 180, 182, 184, 186, 188, 190, 192, 194, 196, 198, 200, 202, 204, 206, 208, 210, 212, 214, 216, 218, 220, 222, 224, 226, 228, 230, 232, 234, 236, 238, 240, 242, 244, 246, 248, 250, 252, 254, 256, 258, 260, 262, 264, 266, 268, 270, 272, 274, 276, 278, 280, 282, 284, 286, 288, 290, 292, 294, 296, 298, 300, 302, 304, 306, 308, 310, 312, 314, 316, 318, 320, 322, 324, 326, 328, 330, 332, 334, 336, 338, 340, 342, 344, 346, 348, 350, 352, 354, 356, 358, 360, 362, 364, 366, 368, 370, 372, 374, 376, 378, 380, 382, 384, 386, 388, 390, 392, 394, 396, 398, 400, 402, 404, 406, 408, 410, 412, 414, 416, 418, 420, 422, 424, 426, 428, 430, 432, 434, 436, 438, 440, 442, 444, 446, 448, 450, 452, 454, 456, 458, 460, 462, 464, 466, 468, 470, 472, 474, 476, 478, 480, 482, 484, 486, 488, 490, 492, 494, 496, 498, 500, 502, 504, 506, 508, 510, 512, 514, 516, 518, 520, 522, 524, 526, 528, 530, 532, 534, 536, 538, 540, 542, 544, 546, 548, 550, 552, 554, 556, 558, 560, 562, 564, 566, 568, 570, 572, 574, 576, 578, 580, 582, 584, 586, 588, 590, 592, 594, 596, 598, 600, 602, 604, 606, 608, 610, 612, 614, 616, 618, 620, 622, 624, 626, 628, 630, 632, 634, 636, 638, 640, 642, 644, 646, 648, 650, 652, 654, 656, 658, 660, 662, 664, 666, 668, 670, 672, 674, 676, 678, 680, 682, 684, 686, 688, 690, 692, 694, 696, 698, 700, 702, 704, 706, 708, 710, 712, 714, 716, 718, 720, 722, 724, 726, 728, 730, 732, 734, 736, 738, 740, 742, 744, 746, 748, 750, 752, 754, 756, 758, 760, 762, 764, 766, 768, 770, 772, 774, 776, 778, 780, 782, 784, 786, 788, 790, 792, 794, 796, 798, 800, 802, 804, 806, 808, 810, 812, 814, 816, 818, 820, 822, 824, 826, 828, 830, 832, 834, 836, 838, 840, 842, 844, 846, 848, 850, 852, 854, 856, 858, 860, 862, 864, 866, 868, 870, 872, 874, 876, 878, 880, 882, 884, 886, 888, 890, 892, 894, 896, 898, 900, 902, 904, 906, 908, 910, 912, 914, 916, 918, 920, 922, 924, 926, 928, 930, 932, 934, 936, 938, 940, 942, 944, 946, 948, 950, 952, 954, 956, 958, 960, 962, 964, 966, 968, 970, 972, 974, 976, 978, 980, 982, 984, 986, 988, 990, 992, 994, 996, 998, 1000, 1002, 1004, 1006, 1008, 1010, 1012, 1014, 1016, 1018, 1020, 1022, 1024, 1026, 1028, 1030, 1032, 1034, 1036, 1038, 1040, 1042, 1044, 1046, 1048, 1050, 1052, 1054, 1056, 1058, 1060, 1062, 1064, 1066, 1068, 1070, 1072, 1074, 1076, 1078, 1080, 1082, 1084, 1086, 1088, 1090, 1092, 1094, 1096, 1098, 1100, 1102, 1104, 1106, 1108, 1110, 1112, 1114, 1116, 1118, 1120, 1122, 1124, 1126, 1128, 1130, 1132, 1134, 1136, 1138, 1140, 1142, 1144, 1146, 1148, 1150, 1152, 1154, 1156, 1158, 1160, 1162, 1164, 1166, 1168, 1170, 1172, 1174, 1176, 1178, 1180, 1182, 1184, 1186, 1188, 1190, 1192, 1194, 1196, 1198, 1200, 1202, 1204, 1206, 1208, 1210, 1212, 1214, 1216, 1218, 1220, 1222, 1224, 1226, 1228, 1230, 1232, 1234, 1236, 1238, 1240, 1242, 1244, 1246, 1248, 1250, 1252, 1254, 1256, 1258, 1260, 1262, 1264, 1266, 1268, 1270, 1272, 1274, 1276, 1278, 1280, 1282, 1284, 1286, 1288, 1290, 1292, 1294, 1296, 1298, 1300, 1302, 1304, 1306, 1308, 1310, 1312, 1314, 1316, 1318, 1320, 1322, 1324, 1326, 1328, 1330, 1332, 1334, 1336, 1338, 1340, 1342, 1344, 1346, 1348, 1350, 1352, 1354, 1356, 1358, 1360, 1362, 1364, 1366, 1368, 1370, 1372, 1374, 1376, 1378, 1380, 1382, 1384, 1386, 1388, 1390, 1392, 1394, 1396, 1398, 1400, 1402, 1404, 1406, 1408, 1410, 1412, 1414, 1416, 1418, 1420, 1422, 1424, 1426, 1428, 1430, 1432, 1434, 1436, 1438, 1440, 1442, 1444, 1446, 1448, 1450, 1452, 1454, 1456, 1458, 1460, 1462, 1464, 1466, 1468, 1470, 1472, 1474, 1476, 1478, 1480, 1482, 1484, 1486, 1488, 1490, 1492, 1494, 1496, 1498, 1500, 1502, 1504, 1506, 1508, 1510, 1512, 1514, 1516, 1518, 1520, 1522, 1524, 1526, 1528,

all waist is gathered at yoke depth
aps are finished separately and a

the waist at the centre back and the collar is attached to the cuffs at the elbows where they meet deep cuffs. The neck is finished with a straight edge and the waist is finished at the elbow line. If preferred, the pattern provided in figure 1 may be used. The quantity of material required for the men's jacket is 5 yards 21 inches wide, or 13 yards 21 inches wide, with 1½ yards for yoke with straps. The quantity of material required for the women's jacket is 4, 4.50, or 5 cut in 2 sizes for girls of 12 to 16 years of age.

Waist with contrasting Piped Band. This consists of a fitted lining on which is arranged at yoke depth, the collar is attached to the collar edge of the lining. The fitted linings with contrasting facings are attached to facings. The facings are fitted to the facings beneath the elbows, stitched at the collar line. The quantity of material required for the men's jacket is 5 yards 21 inches wide or 13 yards 21 inches wide, with 1½ yards for bodice and under-sleeves.

... is cut in sizes for a set of
... .

ME DRESSMAKING.
PATTERNS—For a catalog
 illustrated on this page, send
 (or postage stamp), state num-
 ber, and size wanted, and write
 address distinctly. Mail orders.
 Address MASSACHUSETTS PL
 n, Mass.

This image shows a blank, aged, cream-colored page, likely an endpaper or flyleaf of a book. The paper has a slightly textured appearance with some faint smudges and discoloration, characteristic of old paper. The left edge of the page is bound, showing the inner hinge and some stitching. The overall tone is a warm, off-white or light cream.

The Horse.

Profit in Draft Horses.

The market for draft horses is sure, steady and reliable. They are needed for heavy work in the cities, and the demand exceeds the supply. Farmers can raise them and an expert is not needed to train them. For market purposes nothing is better than a pure-bred Percheron, which makes the perfect heavy horse for city work and can also be used to advantage on a farm. If the aim is to grow an all-around farm horse, however, a grade Percheron will answer the purpose better and can be produced at less cost. Breed any good, sound, blocky mare to a pure-bred Percheron stallion, and the result should be the best of general-purpose horses, weighing eleven hundred to thirteen hundred pounds, more active and a better driver than the pure bred, and perhaps longer lived and more vigorous. Such a horse can be hitched to anything with satisfactory results, and always sells readily in the country districts where an active, quick-stepping, easy-keeping horse makes up for his lack of great pulling strength by his adaptation to prevailing conditions.

An active demand for express horses is noticed in the leading city markets. At this season the big transportation companies are doing an enormous business just before and during the holiday trade, and there is some shortage, both here and in Great Britain, of desirable horses suitable for high-grade delivery teams. The transportation companies are glad to pay \$150 to \$200 for what they want. The profits of breeding such horses seem to compare well with the production of drafters in point of net profit. The heavier express horses are wanted in British markets, where they are called "vanners," and are worth \$200 each.

"I intend to ask Congress for liberal support of co-operative work in breeding with the various States," declares Secretary Wilson of the United States Department of Agriculture. "We have brought the foundation from Europe; what we want now is an American development. Necessity of covering long distances produced the American road horses, but we haven't improved on the Clydesdale yet."

Navicular disease, according to best medical authority, is hopelessly incurable and invariably becomes progressively worse. Even rest does not benefit it materially, at least not for any length of time, or when a certain stage is reached. A blister to the coronets and a long run out in a damp pasture without shoes often appears to be beneficial, but, as a rule, the animal is not long at work before it is as bad as ever.

An automobile school for the education of nervous horses was put in successful operation some time ago on Gladstone avenue, Kansas City. A large number of timid horses of many kinds was brought to the school, and in a short time many of them were so well accustomed to the "terrors" as to trot quietly alongside of them. The "school" was the practical outcome of a determined effort on the part of the auto owners to placate the public.

If, as announced, the British government is to buy two hundred thousand horses and mules to set up the Boers in business again, holders of these classes of stock ought to feel hopeful of the outlook. Good working and general-purpose animals are likely to be a somewhat scanty supply next spring.

The horse cannery at Linnton, Ore., was recently destroyed by fire. The loss was total. At one time forty horses were slaughtered daily at this cannery, the meat being salted, packed in barrels and exported. It was said that each horse furnished only one hundred to 140 pounds of salt meat.

In horse breeding, as with other stock, the best money is in the best animals. It never pays to raise pligs. Breed good horses, take pride in them, train them carefully, and the profits are sure.

Trim the colt's hoof to keep the foot at the proper level, or lameness and ringbone may result.

Notes from Washington, D. C.

Representative Mercer of Nebraska, chairman of the committee of Public Buildings of the House, is quoted as saying: "I think we will put through an appropriation this winter of \$2,000,000 for a new building for the Department of Agriculture."

The department is certainly in need of a proper habitation, since its offices and bureaus are at present scattered over various parts of Washington in office buildings, converted private residences, old boarding-houses, etc. Thirty years ago the main agricultural building was sufficient for the needs of the then Bureau of Agriculture. Now, it is no longer than sufficient for the needs of some one of the bureaus constituting the department.

Secretary Wilson appeared before the House committee on agriculture Dec. 10, and explained the urgent necessity of an immediate appropriation to enable his department to stamp out the foot and mouth disease now prevalent in New England. He stated that it had been found necessary to kill all infected cattle, and he had ordered their slaughter. He estimated that it would require about \$700,000 to kill the

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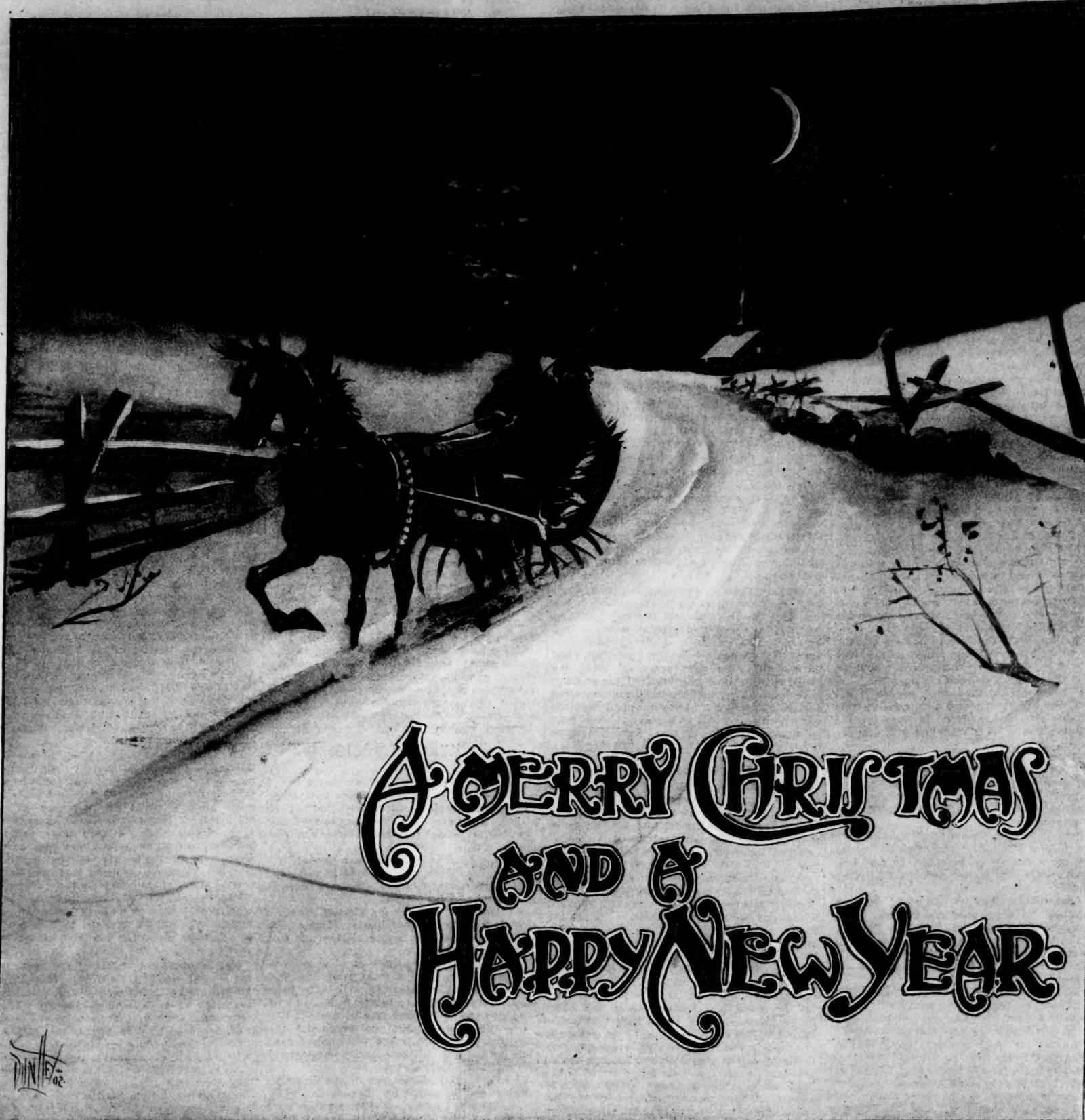
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disease, arrangements having been made with the State authorities to pay seventy per cent. of the value of the cattle killed. Congressmen have become thoroughly alarmed over the inroads of the disease and the possibility of its spread to disastrous proportions, and it is believed that an appropriation of a million dollars will be placed at the disposal of Secretary Wilson. Dr. Salmon, chief of the Bureau of Animal Industry, is now in Boston directing the organization of a force to cope with the trouble.

The Committee on Agriculture of the House has been asked to secure legislation which will give the Secretary of Agriculture authority, after an inspection of live stock, to issue a certificate to the shipper which will permit of his transportation from one State to another and through States, without further inspection by State authorities. It was explained that by a recent decision of the Supreme Court cattle may be stopped at any State line, thus affording a serious interference to interstate commerce in cattle.

Uncle Sam's "date farm," located in Tampa, Arl., where conditions are such that the trees can, according to the old Arabian proverb, stand with their "feet in the water and their heads in the fire," has great promise of a new and valuable industry for the entire arid Southwest, and of cheap and superior dates for the people of the country. Our importations of dates last year were seven and a half million pounds; instead of a luxury, dates are now a common and largely eaten fruit. They are wholesome and regenerative. In Arabia and the far East they are a staple food of the people. Experts believe that the date palm will thrive over a section embracing millions of acres of California, Arizona, New Mexico and Texas. Its habitat in Asia and Africa is the desert, with water to irrigate its roots.

Some years ago the Department of Agriculture recognized the possibilities of American date culture and secured a few young trees from Africa. These are now bearing fine fruit. Three years ago another large shipment of improved varieties was received from Algeria, and these are now growing at the Tempe farm, which is to be used as a Government date nursery. The date propagates true to itself by suckers from the base of the tree. Only this year, D. G. Fairchild, a department explorer, visited the region of the Persian Gulf, which is the greatest date centre of the world, and obtained varied kinds of dates, choice varieties, early fruiting and what are supposed to be some very hardy sorts. Conditions are said to be so varied in the far East, under which the date thrives, that I cannot see why this splendid palm will not find a wide and extensive home in our Southwest. In fact, I have seen date palms growing thrifty from Florida westward, well up into California, only they are not the dates of commerce, and though they often bear great bunches of poor fruit, they have been planted simply for ornamentation. Later, the date will combine this feature with profitability. It seems quite a coincidence that Tempe, which is almost a suburb of Phoenix, should have been selected as a propagating garden for a plant which is known scientifically as Phoenix dactylifera.

The report of the Secretary of the Interior, wherein he refers to leasing the public lands, is causing no little comment among Western stockmen. Those who have made the closest study of the conditions in the West agree that some provision must be made sooner or later for the control of the public range. It is becoming more and more overstocked, cattle and sheep herders are coming more and more into conflict, resulting in the annual intentional destruction

of thousands of animals and the shedding of much human blood. Grasses are being killed out and watersheds are being ruined by overgrazing. The conditions in some sections are intolerable, and it is urged that some system of control must be devised. Various leasing measures have been proposed, but thus far they have all been so obviously in favor of the big outfits and the land grabbers, and against the interests of the small stockmen and the settlers, that anything with the term leasing attached immediately arouses a storm of protest throughout the West. Many men who are laboring for the settlement and upbuilding of their Western communities contend that leasing cannot be done under any provisions which will not be evaded by land grabbers and to the detriment of the State's growth in population. It is believed, on the other hand, by many men who have made a close study of the question, that it may be practicable for the Government to grant leases or permits in such manner as to save the range from destruction and at the same time encourage rather than retard homestead settlement by allowing a homesteader exclusive use of a just proportion of the public range. There is no question as to one thing: if a plan of leasing or permits should be worked out which would be satisfactory to all parties, and enable growers to improve and rest their pastures, the meat productive capacity of the West would be enormously increased.

No man, today, can see the solution of the problem, nevertheless, it is one, owing to its close relation to meat production, in which everybody is really more or less interested.

GUY E. MITCHELL.

How Selling Hay Runs Out the Farm.

In many sections of New York State hay is the principal money crop, and hay is being drawn one to five miles to the railroad and sold for from \$5 to \$10 a ton.

Many of these hay farms are steadily running down under the continual drain from sending hay and straw to New York and returning little or nothing to the soil, and the result is a corresponding loss to the New York Tribune. It is doubtless true, as George M. Clark says, that there is still fertility locked up in the soil, dormant, which may be released by intensive cultivation. But is it the wisest plan to get all the fertility from the soil before putting anything back? If one is going to grow hay for market he should certainly follow the Clark plan—fertilize freely, cultivate intensively, and thus raise a large crop of prime hay, which will allow a large margin enough to use a considerable amount of fertilizer. At the price which is being paid hereabouts for the general run of hay the present season, the price of the entire crop, after the cost of labor, pressing, etc., has been deducted, will not pay for nearly enough commercial fertilizer to return to the soil the fertility taken from it. There are farms near here, located on the Schoharie "flats," once famous for their exceeding fertility, which will not produce more than one-half the crops they did fifteen years ago, and perhaps not more than one-third of what they did thirty years ago. This is particularly true of some of the rented farms. The price of this land is steadily declining. Farms which fifteen or twenty years ago were held at from \$6000 to \$10,000 now go begging at \$2000 to \$3000.

A few miles to the west a strip of dairy-farming country begins. The grass on these farms is fed to stock, silos are in evidence, guages are raised and bran and other stock-feed are purchased. In that section of the valley much of the land is holding its own or increasing in fertility, and the farms when sold bring considerably more than those in the hay-selling districts.

The fact is, that where commercial fertil-

izers are liberally used, they will not return the humus to the soil which is taken from it when hay or straw is sold. The larger the crop one gets the faster the humus goes. Intensive cultivation, which lets the sun and air into the soil, will enable one to get large crops when inferior cultivation would produce little or nothing. But even so, one cannot take hay from the soil forever without depleting it of its humus—decayed vegetable matter—and it must eventually fail to respond to the best cultivation combined with commercial plant foods.

It is wisest, I think, to raise stock and to sell meat, wool, milk and butter, rather than to rely upon timothy hay as the money crop. Of course, a certain amount of first-class timothy may be sold yearly and put back in the form of bran for stock food and the farm gain in fertility by the exchange; but the salvation of the run-down farms lies not in intensive cultivation, in order to raise hay to sell, but in intensive cultivation in order to raise crops for stock feeding.

A Costly Garden Spot.

Lying in the very heart of New York's ultra-fashionable district between West End avenue and Riverside Drive, is the most valuable farm in the world, says the Mail and Express. It is a real farm, too, not the fact of a rich owner or the experiment station of some cranky vegetarian. It is titled regularly every year, and its produce is sold at the nearest market. It is only one acre in area, and it is worth \$288,000. A bit of history attaches to the spot. In 1863 it formed part of what was known as Broadway Garden. Here was a famous recreation station for the Government, with a camp of camp and barracks combined. There was no hint then, in the sixties, of the marvelous rise in real estate values which the district was destined to experience. Broadway was the thoroughfare north and south, dotted with stores, summer gardens and residences, but nobody fancied that the space between the highway and the river would become a fashionable residence district. The rocks were seventy-five to one hundred feet high in ridges, and there seemed to be nothing but ridges, separated by gullies, equally difficult of grading. The solution came with the transformation of the river bank into Riverside Park. That ugly declivity was redeemed from a dumping-place for tin cans and decayed vegetables as soon as the magic wand of municipal enterprise had been waved over it. Huts were changed into palaces as in a night. Fine streets took the place of cow paths. Stately monuments rose into view instead of ash heaps.

Through it all this little farm changed not, except in area. When West End avenue was cut through, a slice was clipped off. Then came Ninety-fifth street, and then Ninety-fourth. Riverside Drive took its westerly end—but as that was a woodland piece the farm did not suffer so much. It still smiled a green welcome toward the east. Its sunflowers and field daisies have grazed, wonder-eyed, at the majestic buildings that have come to overlook them on four sides. The tiny cottage looks strangely out of place when compared with the surrounding apartment houses, but is still in harmony with the clinging vines on the porch, the footpaths leading through beds of onions and beets, with the old plow resting lazily beneath the trees, and with the rows of waving corn. A wooden shed contains many tools and an abandoned wagon—for the farmer no longer drives to market. The market comes to him. A reporter had proof of this when he stopped to chat with farmer West one morning. Three aristocratic dames had called in person to buy fresh vegetables. One was a sister of a famous

prima donna, another was a fabulously rich widow whose house overlooks the river and cost a million, while the third was a charming young matron whose city life had not crushed her love for things of nature. "You must be in clover," remarked the reporter, as the last of the trio passed out the wooden latched gate and got into her auto. Mr. West nodded pleasantly. "It's all right so far," he said, "but I'm looking for trouble. Mrs. C., there, wanted to buy the whole crop of corn, and asked me to name my own price, but I had to refuse her. You see, my other customers must be considered. If each one gets twelve ears of corn that'll be about the limit."

"What do you get for corn?"

"Six for a quarter. I could get more, but it wouldn't be policy. Same way with beets, green onions, kohlrabi and celery. I charge according to the market price, and I keep busy all the time. The celery keeps me going in winter."

Some twenty-four years in all has Mr. West conducted the place, which is appraised at \$288,000. If his crops were expected to pay interest on that valuation, at four per cent., his cabbage would have to realize about \$5 a head and his celery about \$1 a bunch, while other products would be close rivals of the beef-trust specialties in high cost. As it is, the farm pays a good living, and is interesting from its unique position as the most valuable of its kind in the world.

Tools for Winter Pruning.
In trimming trees, we want something that will make a good, smooth wound. The advantage I find with my saw is that it has a stiff back, making the blade perfectly rigid, which can be brought up with a set screw. That will make a good, close cut where the saw will not get a chance to wobble. Of course, the teeth of the pruning saw are fine and well set, so that it cuts rapidly. There was a blade on the end for jabbing, but that is a very poor tool, because you will make one or two strikes before you hit in the right place, and those make two or three wounds, and you get two or three suckers to heal over those wounds. The saw is in all cases the best tool to prune with, and makes very little injury to the cambium in cutting, and that is the important part of the tree, for that is the part from which we get all our growth, and want to take the greatest care of it.

Some might say, "What about the pruning shears?" They are all right under certain circumstances for smaller limbs, when there is not much resistance in cutting it off, but take the limb of an apple tree where the wood is hard, in order to get that limb off you have to work the shears off, and you will work the bark off there, bruise the cambium for an inch, and the wound heals very slowly. We use a long handle on the saw for high trimming.

It is not necessary to pare wounds, because you want to have the inner bark protected as much as possible, and if you pare down it will allow the frost to get to the inner bark.

W. N. HUTT.

Light for Greenhouse Crops.

The well-known Boston gardener, W. W. Rawson, has found profitable for several years the use of electric lights to stimulate night growth of lettuce. Where electric light cannot be had or is too costly, the acetylene light has been tried with same success. From tests at the New Hampshire Experiment Station greenhouses, Professor Rane concludes that the acetylene gaslight has a marked effect upon greenhouse plants and that no injurious effects resulted. The light has a stimulating influence on most plants, and appears to be beneficial to

some plants that are grown for foliage, such as lettuce. The lettuce stood more erect and weighed more. Most plants tend toward a taller growth under the light. It is doubtful whether the light can be used in the greenhouse, from an economic standpoint, for growing plants alone. While its effect is marked in the dark days of winter, little difference seems to be shown at other seasons of the year, when there is more sunshine. There are many points about the acetylene gaslight that make it desirable for lighting greenhouses. It is not expensive, is easily piped and comparatively simple to run. Acetylene gas-making outfits are not very costly. They furnish a very bright, steady, clear light, excellent for house lighting, and claimed to be less expensive than oil.

Uniform Fleeces Wanted.

A very large percentage of the wool produced in the United States is combed wool. That is, of the wool raised in our markets, but a small percentage, actively speaking, comes from pure-bred sheep. If we take the total product from all the breeds of sheep, having recognized registry associations into account.

The fleeces of wool which are graded by local dealers or commission men are seldom opened. The sorting process is a much closer and more accurate method of classifying wools. Before the wool is sorted it is generally sorted. The expert wool sorter opens the fleece and removes a portion of it here and there, and throws it into separate piles or baskets. The number of sorts of wool in fleeces varies greatly, ranging from two or three to five or six sorts from pure-bred sheep, do not, as a rule, have as many sorts of wool in them as those taken from cross-bred sheep.

Fleeces uniform in quality and length of staple are most desirable for manufacturing purposes. Consequently, if we wish to produce wool most desirable for the manufacturer, we must not cross indiscriminately. We can select for the foundation stock of a flock grade or native ewes, and by systematic grading up with some definite breed of sheep we can produce a more even grade of wool throughout the fleece.

HERBERT M. MUMFORD.

Michigan.

Hints to Hog Butchers.

A merciful way to kill a hog is to strike it in the head with a suitable implement, producing stupor, then instantly use the sticking knife. This causes instant death. An animal suffers more from fear than it does from death itself. A neat, unobjectionable method is to drop the open side of a suitable long, narrow box down over the animal, and then turn box and animal upside down, when the knife can do its work, and the hog be righted again that the hog can bleed out properly. Humane men will be apt to pursue one of these better methods; indeed, many of them do now; but if they will not, they should be thoughtful enough to have children absent from hog killing that no evil be done by bad example.

N. P. BRIDGE.

New Haven County, Ct.

From a Shepherd's Note Book.

Weed out the flat-sided, runt, feeble sheep. Note the great range in wool quantities. Good wool costs no more to raise per pound than the other kind.

Keep stock sheep in good condition, but not too fat. Don't try to winter the breeding ewes without grain, if early lambs and good ones are wanted.

In starting a flock buy first-class, vigorous, healthy animals, about uniform in size and age.

To be glad of life, because it gives you the chance to love and to work and to play and to look up at the stars; to be satisfied with your possessions but not contented with yourself until you have made the best of them; to despise nothing in the world except falsehood and meanness, and to fear nothing except cowardness; to be secured by your admirations rather than by your disgusts; to covet nothing that is your neighbor's except his kindness of heart and gentleness of manners; to think seldom of your enemies, often of your friends, and every day of Christ; and to spend as much time as you can, with body and with spirit, in God's out-of-doors—these are little guide posts on the footpath to peace.—Henry Van Dyke.

The development of our agricultural industries, especially in the Eastern States, toward intensive rather than extensive farming. The greatest advances are being made by the most intensive specialties. They lead the way. Now the most pointed and intensive specialties are those of a horticultural nature: fruit growing, gardening, glass-house farming, etc. These branches, therefore, deserve to be especially favored. Their value should not be estimated by the number of dollars invested in them, but by the influence which they have on the general agricultural advance.—Prof. F. A. Wagh.

The man who raises grain often does not know how to feed it intelligently. A corn is needed in the present wasteful methods.—Secretary James Wilson, United States Department of Agriculture.

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